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seed feed fertilizer REPORT 1969-1972

THE
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF AGRICULTURE
Nathan Chander, Commissioner

This publication consists of reports of the work assigned to the Massachusetts Agricultural Experiment Station by authority of the Seed Act (General Laws Chapter 94, Sections 261A to 261K inclusive), the Feed Act (General Laws Chapter 94, Sections 225 to 235 inclusive, and Chapter 128, Sections 52 to 64 inclusive), and the Fertilizer and Agricultural Liming Materials Act (General Laws Chapter 94, Sections 250 to 261 inclusive).

Included are Seed Laboratory reports for the years 1969, 1970, 1971 and 1972, Numbers 42, 43, 44 and 45 respectively; Feed reports for the years 1970, 1971 and 1972, Numbers 77, 78 and 79 respectively; and Fertilizer and Agricultural Liming Materials reports for the years 1970, 1971 and 1972, Numbers 97, 98 and 99 respectively.

Registration and Control Official: Massachusetts Department of Agriculture, Division of Markets, 100 Cambridge Street, Boston, Massachusetts 02202.

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For information concerning this report or the analysis of seeds, feeds, fertilizers, liming materials and soils, and for information concerning certification of milk fat testing equipment and certification of operators of milk fat testing equipment, please write to:

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SEED LABORATORY REPORT NO. 42
FOR 1969 SEASON

By the Seed Laboratory Staff of the
Feed, Seed, Fertilizer Control Division
Massachusetts Agricultural Experiment Station, Amherst, Mass.

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SUMMARY OF YEAR'S WORK

The work of the Seed Laboratory can be expressed to some extent by the number of samples handled. During the period from November 1, 1968 to October 31, 1969, the Seed Laboratory received 1072 samples of seed for various service and experimental tests and during the period from July 1,1968, to June 30, 1969, 964 samples for official investigations and analyses, making a total of 2036 samples handled for the year. This compares to 2224 samples for the previous year. Altogether 2604 various tests were made.

Table I shows the nature of the samples received by plant categories and their disposition into the various kinds of tests required. It is seen that the 2604 different tests scheduled included 2177 germination, 171 purity, 160 noxious weed and 96 other tests.

The results of the service and experimental tests have been reported to those persons concerned and are, therefore, not given in this report. But the results of the official tests and analyses which were finalized by October 31, 1969, are of general concern to the public and are reported in the following pages.

SEED INSPECTORS' WORK

The Seed Laboratory has depended on the Chief Market Investigator and State Seed Inspectors to take representative samples of seed from as many lots and sources possible, so that the official samples tested would present an unbiased survey of the seed being offered for sale in Massachusetts.

In addition to the work of sampling and sending all of the official seed samples to the laboratory, the Seed Inspectors made spot checks on many lots of seed which were neither sampled nor sent to the seed laboratory. They issued 90 Stop sale orders against 391 lots of seed which were labeled in violation of the Massachusetts Seed Act. These Stop Sale orders are in addition to the violation notices issued by the laboratory.

The seed inspectors also attended a short course of four half-day sessions at the Seed Laboratory in order to improve seed inspection in the Commonwealth.

TABLE I SEED SAMPLES FOR THE INSPECTION YEAR 1968-69

Kind of Seed Samples	No. Rec'd	Number of Analyses Scheduled			
		Germi-nation	Purity	Noxious Weed	Other*
Official Samples					
Agricultural	92	92	92	92	17
Mixtures (256 components)	64	193	64	64	36
Vegetable and herbs	419	419	0	0	0
Flowers	373	373	1	0	0
Trees and shrubs	16	16	0	0	0
Total Official	964	1093	157	156	53
Service and Experimental					
Agricultural	54	53	10	2	31
Mixtures (55 components)	19	37	4	2	0
Vegetables and herbs	512	512	0	0	3
Flowers (1 mixture)	464	464	0	0	0
Tree and shrubs	14	14	0	0	0
Other (weeds and unidentified)	9	4	0	0	9
Total Service & Experimental	1072	1084	14	4	43
Total of All Samples	2036	2177	171	160	96
Total Tests Scheduled			2604		

* Includes fluorescence, phenol reaction, tetrazolium, cleaning, identification, and other research tests.

TOBACCO SEED SERVICE

The Seed Laboratory cleaned 3 lots of tobacco seed. The gross weight of the seed was 6.38 pounds and the net weight after cleaning was 4.96 pounds. Besides this, 29 samples of seed were tested for germination for tobacco growers in the Commonwealth.

POINTS FOR INVESTIGATION

Seeds which are to be sold in Massachusetts for seeding purposes must meet all the requirements of the Seed Act. (See Chapter 94 of the General Laws amended by Chapter 396 of the Acts of 1959, and the Rules and Regulations, the latest changes being effective Jan. 1, 1970). The points of the law for which the Seed Laboratory could test seeds for compliance during the 1968-1969 season are summarized below. These points were used as bases for the investigation.

A. All Seeds:

1. Must be labeled to show: conspicuously and plainly the commonly accepted name of kind, variety, and treatment* if any, name and address of labeler or vendor, and number of Restricted Noxious Weed Seeds** per pound if any, under the heading "Restricted Noxious Weed Seeds" or "Noxious Weed Seeds".

2. Must not: have any false or misleading label or advertising; nor be represented as Certified seed, Registered seed, Foundation seed, or Hybrid seed unless they meet the requirements; nor contain any Prohibited Noxious Weed Seeds#; nor contain more Restricted** Noxious Weeds per pound than claimed; nor contain more than one percent total Weed Seeds##; nor germinate less than two thirds the recognized standard (making a lot UNFIT FOR SEEDING PURPOSES); nor be offered for sale more than nine months after the latest germination test.

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* For required treatment statement see page 5.

** The Restricted Noxious Weeds are: dodder (*Cuscuta* spp.), horsenettle (*Solanum carolinense*), wild mustards including India mustard (*Brassica juncea*), charlock (*B. kaber*) and black mustard (*B. nigra*), wild garlic and wild onion (*Allium* spp.), perennial sowthistle (*Sonchus arvensis*), corncockle (*Agrostemma githago*), buckhorn plantain (*Plantago lanceolata*), wild radish (*Raphanus raphanistrum*), bedstraw (*Galium* spp.), and annual bluegrass (*Poa annua*).

\# The Prohibited Noxious Weeds are; Canada thistle (*Cirsium arvense*), field bindweed (*Convolvulus arvensis*), and quack grass (*Agroypyron repens*).

Besides the plants commonly recognized as weeds, black medick (*Medicago lupulina*), suckling clover (Trifolium dubium) and large hop clover (*Trifolium campestre*) are also classed as weeds.

B. If seed has been treated with a substance* or process*, a treatment statement must appear in type no smaller than 8 points on the container, tag, or on a separate tag as indicated below:

TREATED WITH SUBSTANCE* OR PROCESS*:	REQUIRED LABEL OR STATEMENT:
1. Amount remaining on seed not harmful to vertebrates, neither mercurials nor similarly toxic chemicals, on seed quantities of 4 ounces or less, or the following chemicals on seed quantities of any size, in concentrations less than indicated; allethrin- 2 parts per million, malathion- 8 p.p.m., methoxychlor- 2 p.p.m., piperonyl butoxide- on oat and sorghum-8 p.p.m., on all other seed- 20 p.p.m., pyrethrins- on oat and sorghum- 1 p.p.m., on all other seed- 3 p.p.m..	Treated with: _____ (Name of substance* or process*) _____ (Proprietary name permitted)
2. Amount remaining on seed harmful to vertebrates, neither mercurials nor similarly toxic substances but on seeds in larger quantities or in concentrations higher than indicated above.	Treated with _____ (Name# of substance*) _____ (Proprietary name permitted) DO NOT USE FOR FOOD FEED OR OIL
3. Mercurials or similarly toxic substances if any amount remains on seed: aldrin, dieldrin, ethion, mercurials, phorate, demeton, endrin, heptachlor, parathion, toxaphene p-dimethylamino benzenediazo sodium sulfonate 0-0-diethyl-0-(isopropyl-4-methyl 6-pyrimidyl) thiophosphate 0-0-diethyl-S-2(ethylthio) ethyl phosphorodithiolate	Treated with: _____ (Name# of substance*) POISON _____ (Proprietary name permitted) (In red letters**)

*Designed to reduce, repel or control insects or disease organisms.
#The name of the substance must be commonly accepted and must be either the coined name, chemical (generic) name or the abbreviated chemical name. It must not be a proprietary or trade name.
**The skull and crossbones must be at least twice the size of 8 point type.

C. Agricultural and Lawn Seed:

1. Must be labeled to show: commonly accepted variety* name, or the statement "Variety Unknown" if it is unknown; Origin in the case of alfalfa, red clover, white clover and field corn (except hybrid corn) or "Origin Unknown" if it is unknown; Lot number; the percentage Germination and percentage Hard Seed, if any, with the month and year of germination test; and the percentage by weight of each Pure Seed component by name in excess of 5 percent of the whole**, in order of its predominance#; the percentage by weight also of Weed Seed, Inert material and Other Crop seed; and the term "Mixture" if more than one pure seed component is named.

2. Must neither be labeled with the term "trace" for any required percentage, nor contain more than 20 percent Inert matter.

D. Vegetable and Herb Seeds:

1. Must be labeled to show: for peas, beans and sweet corn in packages of more than one pound and others in packages of more than 1/4 pound, the Lot number, percentage Germination and percentage Hard Seed if any, and the month and year of Germination test; for seeds in smaller sized containers than the above, the date of Germination test or calendar year for which packaged; if the Germination plus Hard Seed is below the adopted standard, the percentage Germination plus Hard Seed if any, the month and year of test and the term "Below Standard" in type no smaller than eight point.

E. Flower Seeds:

1. Must be labeled to show: the kind and variety name or a statement of performance characteristics; that it is a mixture of kinds and varieties, if so; whether the plants produced will be annual, biennial or perennial if there could be any doubt; for seed in containers larger than those for home flower gardens, the Lot number, and if standard testing procedures have been adopted, the percentage Germination and Hard Seed if any, and the month and year of Germination test; for seeds in containers of the size for home flower gardens, the date of Germination test or calendar year for which the seed is packaged; and for any size package, if the percentage Germination plus Hard Seed is below the adopted standard, the percentage Germination plus Hard Seed if any, the month and year of test, and the term "Below Standard" in type no smaller than eight point.

2. Must neither contain more than 25% by count of one kind in a mixture of kinds unless the kind names and approximate percentage of each are declared nor potentially produce 60% or more plants bearing one color flowers when labeled to produce four or more colors of one kind, unless the approximate percentage of each is indicated.

** See Rules and Regulations paragraph 6 for exceptions to the 5% rule.

See Rules and Regulations paragraph 10 for mixture components.

* See Rules and Regulations paragraph 12 for list of kinds requiring variety names.

E. Flower Seeds (Continued):

3. A mixture of kinds of flower seeds will be considered to be below standard if the germination of any kind or combination of kinds constituting 25 percent or more of the mixture by number is below standard for the kind or kinds involved.

F. Tree and Shrub Seed in Containers of Quarter Pound or More:

1. Must be labeled to show: percentage by weight of Pure Seed; the year of collection; the locality and elevation where grown or a statement that these are unknown; percentage of germination and date of test if a standard method of germination has been adopted.

G. Additional requirements for seeds in preplanted containers, mats, or tapes:

1. Must be labeled to show: the minimum number of seeds per square foot for agricultural seeds; the minimum number of seed in the containers for other seeds.

PREVIEW OF OFFICIAL TESTS

The official seed samples which represent a cross section of all seed sold for seeding purposes in Massachusetts were collected, tested and analyzed in accordance with the provisions of Sections 261 F and 261 H of the Seed Act. Most of the samples were found to be labeled properly and truthfully, but some were found to be mislabeled or otherwise in violation of the law.

The details of the points of violation are given in the following five tables: Table II Agricultural Seeds, Table III Mixtures, Table IV Vegetable Seeds, Table V Flower Seeds, and Table VI Tree and Shrub Seeds.

Table VII shows the compliance of all seed dealers listing the number of samples collected which were labeled correctly as well as the number in violation. Table VIII shows the frequency of the various types of violations and Table IX compares the violations for the last 10 years.

In the tables the names of the LABELERS OR SHIPPERS ARE CAPITALIZED AND listed in alphabetical order; the names of the retailers and information concerning seeds found in violation are given under the labeler's names.

Underscored figures or words may indicate laboratory findings which are significantly less desirable or in some cases different from the claim on the label and hence point out violations of the Massachusetts law. Underscoring may also indicate violations without reference to laboratory tests. Complete analyses may not be shown, but the pertinent information relative to the points of violation is given.

When germination or purity percentages are quoted the figures are for the main crop seed component unless another component such as inert material, other crop seed or weed seed is mentioned.

In the tables notations are also made as to whether the violations are serious (S) minor (M) or technical (T). This classification is based on the following:

Serious (S) is assigned when laboratory findings: 1. are below the label by more than twice the official tolernace for the percent by weight of any pure seed component or its germination; 2. exceed the label by more than twice the official tolerance for the percent by weight of any pure seed component, weed seeds or Restricted Noxious Weed Seeds; 3. exceed the label by more than the official tolerance for Prohibited Noxious Weed Seeds; 4. show seeds not labeled as treated when treated and vice versa; 5. show seeds grossly mislabeled or misrepresented.

Minor (M) is assigned when laboratory findings: 1. are below the label by more than the official tolerance for the percentage by weight of any pure seed component or its germination; 2. exceed the label by more than the official tolerance for the percentage by weight of any pure seed component, weed seeds or Restricted Noxious Weed Seeds; 3. exceed the label by more than double the official tolerance for inert matter and any other crop seeds; 4. show inappropriate labeling or exaggerated claims but not grossly mislabeled.

Technical (T) is assigned when laboratory findings show the quality of seed is within tolerance of the label but such things as the name of a variety or treatment are improperly used, or the date of test, germination percent or lot number are omitted, or when there are other violations which do not misrepresent the seed.

Table II reports the violations in the labeling of Agricultural seeds. Of the 92 samples collected by the state inspectors, 10 were found to be in violation of the Seed Law.

TABLE II VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS)

LABELER/SHIPPER Seller/consignee	Lab. no.,kind, variety, lot no., description.	Violation Labeled L,Found F	SERIOUS S MINOR M TECHNICAL T
AGWAY INC., SYRACUSE, NEW YORK* Agway, Inc., Waltham	69-389 Red fescue, Pennlawn (Squire Applegate Brand), #P74863, Oregon.	Purity % L 96.47,F 89.18 DEFICIENT (Note 9.15% Ky. bluegrass was found; this should have been labeled as a mixture.)	S T
HERITAGE HOUSE (DIAMOND SHAMROCK CORP.), CLEVELAND, OHIO* Decatur,Hopkins Bigelow and Douse, Co., Needham	69-1193 Lawn seed #569-Oregon for patching bare spots. Guarantee statement mentions this to be a mixture. Description on container states seed to be the New "Norlea" perennial rye grass.	Not a mixture,only one pure seed constituent MISLEADING Norlea variety is at least eleven years old;"New" is . . . . . .INAPPROPRIATE	S M
W. R. GRACE & CO., BUFFALO, NEW YORK * J. D. Lyon, Inc., Cambridge	69-1181 Manhattan ryegrass, #4337.	Proper kind name, perennial ryegrass,is . . . .REQUIRED	T
J. D. LYON, INC., 143 ALEWIFE BROOK PKWY., CAMBRIDGE, MASS.* J. D. Lyon, Inc., Cambridge	69-1169 Red fescue Pennlawn creeping. #03-3021 Oregon.	Weed seed % L 0.10,F 0.90....EXCESSIVE	M
WESTERN FARMERS ASSN., SEATTLE, WASHINGTON* Farm Bureau Assn., Waltham	69-88 Perennial ryegrass Cert. Linn. #148-53 Oregon.	No label or tag showing analysis. Purity and germination analyses and date of test are...REQUIRED	T

*Considered responsible.

TABLE II VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS) (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no.,kind, variety, lot no., description.	Violation Labeled L,Found F — SERIOUS S, MINOR M, TECHNICAL T
WESTERN FARMERS ASSN., SEATTLE, WASHINGTON* Farm Bureau Assn., Waltham	69-383 Pennlawn fine fescue M268 PESAI Oregon.	Kind name "fine fescue" is not accepted. Correct kind name, red fescue ,is . . .REQUIRED T
WESTERN FARMERS ASSN., SEATTLE, WASHINGTON* Farm Bureau Assn., Waltham	69-384 Bentgrass, Penncross M65-8F, Oregon.	Kind name "bentgrass" is disallowed, correct kind name, creeping bentgrass , is . . . . . REQUIRED T
WESTERN FARMERS ASSN., SEATTLE, WASHINGTON* Farm Bureau Assn., Waltham,	69-385 Chewings fescue L948CF6, Oregon.	Purity % L 99.28,F 98.62 DEFICIENT M Weed seed % L 0.53,F 1.13(within tolerance)
WESTERN FARMERS ASSN., SEATTLE, WASHINGTON* Farm Bureau Assn., Waltham	69-386 Bentgrass, Highland L94-8-HB7, Oregon.	Kind name"bentgrass" is disallowed. Correct kind name, colonial bentgrass , is . . .. .REQUIRED T
WESTERN FARMERS ASSN., SEATTLE, WASHINGTON* Farm Bureau Assn., Waltham	69-387 Bentgrass, Astoria L73836AB, Oregon.	Kind name "bentgrass" is disallowed, Correct kind name, colonial bentgrass , is . . . . . REQUIRED T

*Considered responsible.

Table III reports the violation in the labeling of mixtures of Agricultural seeds. Of the 64 samples collected by the State Inspectors 29 were found to be in violation of the Seed Law.

TABLE III VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description.	Violation Labeled L, Found F SERIOUS S MINOR M TECHNICAL T
AGWAY INC., SYRACUSE, NEW YORK* Agway Inc. Holden	69-356 Forage mixture PB8368	Purity % Alfalfa varieties: L 34.95, F23.88 ...DEFICIENT S Alsike clover: L 0.00, F 5.44 ....EXCESSIVE S
AMERICAN HARDWARE SUPPLY CO.,* BUTLER, PENNSYLVANIA Harveys Inc. Falmouth	69-531 Village Park (brand) Economy mixed Grass Seed, VPE 7-69.	Marked as tested by Loft's Seed Co., Boundbrook, N.J. in January 1969 but shipped by American Hardware Supply Co., Butler, Pa. to Massachusetts January 2, 1969. Test date is improbable ..... MISLEADING S
BIGELOW NURSERIES, NORTHBORO, MASS.* Bigelow Nurseries, Northboro	69-155 Bigelow's Top Quality Lawn Seed Mixture 6019	Marked as shipped Jan. 16, 1970 by Lee Patten Seed Co., Arlington Mass. with Bigelow's label and a Feb. test date. Post dating is disallowed and MISLEADING S
CONLON & DONNELLY, ATTLEBORO, MASS.* Conlon & Donnelly Attleboro	69-913 C & D Special Lawn Blend Lawn Seed Mixture. 4569 Five labeled pure seed components.	Purity %-rough bluegrass L 9.00, F 19.10 ...EXCESSIVE S Kentucky bluegrass: L 21.25, F 8.11 ...DEFICIENT S
CRAWFORD GARDEN SUPPLIES INC.,* PROVIDENCE, R.I. H. Schwartz Fall River	69-835 U.R.I. #1 Mixed Grass Seed 6018. Three fine-textured components.	Purity %-chewings fescue: L 49.00, F 41.72 ..DEFICIENT M Kentucky bluegrass: L 21.25, F 29.63 ..EXCESSIVE M Labeled lot number and date of test are .....MISPLACED T

*Considered responsible

TABLE III VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description.	Violation Labeled L, Found F SERIOUS S MINOR M TECHNICAL T
CRAWFORD GARDEN SUPPLIES INC.* PROVIDENCE, R.I. Grossmans Buzzards Bay	69-888 Park Lawn Grass Seed 7011 Six various grass seed components.	Purity %-Kentucky bluegrass: L 30.60, F 44.83...EXCESSIVE M Creeping red fescue: L 9.50, F 4.25 ....DEFICIENT M Misspelled variety name of Alta tall fescue T
FAIRWAY SEED CO.* MOONACHIE, N.J. Bigelow Nurseries Northboro	69-154 All Fes Q Mixed Grass Seed 9225 Four varities of fine-textured red fescues.	Shipped Jan. 16, 1969 by Lee Patten Seed Co., Arlington, Mass., but labeled as tested in Feb. 1969 by Fairway Seed Co. Post dating is .....MISLEADING S
FREDONIA SEED CO.* FREDONIA, N.Y. Hamilton Hardware Co. Clinton, Mass.	69-199 Veltex Grass Seed Mixture. 6995 Contains five components of which 72.5% are ryegrass.	The term "Veltex" in the trade name of this mixture implies to the layman seeds which can produce a lawn of fine textured grasses, whereas the analysis label shows it to contain 72.5% seeds of coarse textured kinds. Repeated violation-third year. Stop Sale Order issued.MISLEADING S Germination % Kentucky bluegrass: L 75, F 62 .....DEFICIENT M
INDEPENDENCE HALL SEED CO.,* BALTIMORE, MD. Kerr Mill Bargain Center Fall River	69-991 Bare Spot R Special Formula Grass Seed & Feed Mixture J 329 M Pure seed % labled 55%	Purity %-inert: 42.28 Exceeds 20% limit of inert matter .....PROHIBITED S
JENKS-WHITE SEED CO., INC.,* John D. Lyon, Inc. Cambridge	69-1190 Mixed Pennlawn Creeping Red Fescue and Annual Ryegrass 092-556	Components of grass mixture must be labeled under the headings "Fine Textured Grasses" and "Coarse Kinds" ..... T

*Considered responsible.

TABLE III VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description.	Violation Labeled L, Found F SERIOUS S MINOR M TECHNICAL T
KERR McGEE CHEMICAL CO.,* OKLAHOMA CITY, OKLA. Carlson Orchard Stand, Harvard	69-21 Hubbard Hall Custom Lawn Seed ABL 2860 Four components of fine textured grasses.	Purity %-Kentucky bluegrass: L 58.80, F 70.24...EXCESSIVE S Festuca rubra varieties: L 39.28, F 27.77...DEFICIENT S Formula is .....UNBALANCED S
LOFT'S PEDIGREED SEED CO.,* BOUND BROOK, N.J. Spags Shrewsbury	69-10 Bowling Green Mixed Grass Seed. BG 1-68 Four components of fine textured grasses.	Purity %-Kentucky bluegrass: L 49.00, F 34.22 ...DEFICIENT S Chewings fescue: L 19.60, F 43.13....EXCESSIVE S Agrostis spp: L 24.05, F 16.62....DEFICIENT S Germination %-Agrostis spp. L 87, F 62 .....DEFICIENT S
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J.* Spags Shrewsbury	69-11 Century Park CP 4-68 Fine component mixture.	Labeled purity formula found grossly incorrect. Lolium spp: L 65.30, F 97.13...EXCESSIVE S Tall fescue: L 19.60, F 0.00....DEFICIENT S Bentgrass: L 5.80, F 0.00 ....DEFICIENT S Kentucky bluegrass: L 5.20, F 1.03.....DEFICIENT S Formula is.....UNBALANCED S
LOFT'S PEDIGREED SEED CO.,* BOUND BROOK, N.J. Spags Shrewsbury	69-12 Green Forest Shady. GFS-2-68 Fine component mixture.	Purity %-Poa trivialis: L 23.50, F 13.45...DEFICIENT S Perennial ryegrass: L20.00, F 36.28....EXCESSIVE S Other Crop: L 0.25, F 9.58.....EXCESSIVE S Formula is.....UNBALANCED S
J.D. LYON, INC.,* CAMBRIDGE, MASS. J.D. Lyon, Inc. Cambridge	69-1160 Easygrow Lawnseed Mixture.1369 Four components.	Germination %-Kentucky bluegrass: L 90, F 77 .....DEFICIENT M Listing of redtop under "Coarse Kinds" is..... REQUIRED M

*Considered responsible

TABLE III VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description.	Violation Labeled L, Found F SERIOUS S MINOR M TECHNICAL T
J.D. LYON, INC.* CAMBRIDGE, MASS. J.D. Lyon, Inc. Cambridge	69-1162 Lyon Merigreen Lawnseed Mixture 569 Three components.	Sum of all labeled purity percentage add to 100.20% is .....IN ERROR T
J.D. LYON, INC.* CAMBRIDGE, MASS. J.D. Lyon, Inc. Cambridge	69-1164 Merion, Highlight and Manhattan Mixture. 269 Three components.	Sum of all labeled purity percentages add to 101% is .....IN ERROR T The accepted kind name, perennial ryegrass, for the variety Manhattan is .....REQUIRED M Listing of ryegrass under "Coarse Kinds" is .....REQUIRED M
J.D. LYON, INC.* CAMBRIDGE, MASS. J.D. Lyon, Inc. Cambridge	69-1165 Manhattan-Merion Mixture 169 Two components.	The accepted kind name, perennial ryegrass, for the variety Manhattan is .....REQUIRED M "Coarse Kinds".....REQUIRED M
J.D. LYON, INC.* CAMBRIDGE, MASS. J.D. Lyon, Inc. Cambridge	69-1174 Sunorshade Lawnseed Mixture 869 Four components.	Germination %-red fescue: L 90, F 75 .....DEFICIENT M
OLD FOX AGRICULTURAL SALES, INC. * PROVIDENCE, R.I. Nadeau Hardware Ocean Grove	69-952. Suburban Grass Seed S-9 Five components.	Labeling to show seed to be a mixture is.....REQUIRED M Correct headings for "fine textured kinds" and "coarse kinds" is .....REQUIRED M
OLD FOX AGRICULTURAL SALES, INC. * PROVIDENCE, R.I. Fall Brook Nurseries Raynham	69-966 U.R.I. #2 Seed. U.R.I. 2-9 Four components.	Labeling to show seed to be a mixture is .....REQUIRED M

*Considered responsible

TABLE III VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description.	Violation Labeled L, Found F SERIOUS S MINOR M TECHNICAL T
PAGE SEED CO.* GREENE, N.Y. Lynde Hardware Gardner	69-338 Greene Park Mix L 14269 Four components.	Listing of ryegrass under "Coarse Kinds" is...REQUIRED M
PATCOPRODUCTS, INC.* ARLINGTON, MASS. Richard B. Orpin Centerville	69-566 Shadylawn Lawn Seed Mixture PS67-F Three components.	Germination %-red fescue: L 85, F 28 .....DEFICIENT S Rough bluegrass: L 80, F 50 .....DEFICIENT S Net Weight: L 454 gms., F 425..IN ERROR T Lot number and test date are ..... CONFUSED T
PHILADELPHIA SEED CO.* PLYMOUTH MEETING, PA. F. Diehl & Son Wellesley	69-362 Old English (Pelo-Mora Mixture) 9-817 Three varieties of perennial ryegrass.	Since Massachusetts law requires all varieties of ryegrass to be listed under the heading "Coarse Kinds" the term "fine textured" on the front label of the box is.....MISLEADING M
O.M. SCOTT & SONS* MARYSVILLE, OHIO W.E. Aubuchon Sterling	69-225 Scott Play Brand Mixture 8110-1409 Mixture of hard fescue and Kentucky bluegrass.	Listing of hard fescue under "fine textured" heading is DISALLOWED M The statement "This guarantee good until June 1970" implies it is legal for the seed to be sold until June 1970, whereas the expiration date is August 1969 MISLEADING T
O.M. SCOTT & SONS* MARYSVILLE, OHIO W.E. Aubuchon Sterling	69-226 Grass Seed for Bare Spots 8110-1509 Three components.	The statement "This guarantee good until June 1970" implies the seed can legally be sold until June 1970, whereas the expiration date is August 1969 MISLEADING T
O.M. SCOTT & SONS* MARYSVILLE, OHIO J. H. Fairbanks Bridgewater	69-1001. Family Brand Grass Seed. 864-1028 Three components.	Labeled on front panel 1 lb.,9 oz., but analysis label on side panel super-imposed on two other labels T states net weight 4 lbs.INCONSISTEN

*Considered responsible

TABLE III VIOLATIONS FOUND IN LABLEING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description.	Violation Labeled L, Found F SERIOUS S MINOR M TECHNICAL T
STANFORD SEED CO.* PLYMOUTH MEETING, PA. Amherst Farmers Supply, Amherst	69-1216 Pacemaker Lawn Seed 9-2049 Six components.	Germination %-ryegrass: L 90, F 75 .....DEFICIENT M
WEAVER HILL SEED CO.* PROVIDENCE, R.I. Dor Win Co.,Inc. Attleboro	69-916 Central Park Grass Seed Mixture. 1-6	Purity %-Kentucky bluegrass: L 11.50, F 7.61....DEFICIENT S Germination %-Kentucky bluegrass: L 75, F 23 ..... DEFICIENT S

*Considered responsible

Table IV reports the violations in the labeling of vegetable seed as determined by laboratory tests. Of the 419 samples collected by the State Seed Inspectors, 26 were found in violation of the Seed Law.

Table IV

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description.	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
AGWAY, INC.* SYRACUSE, N.Y. Agway, Inc. Holden	69-131 Lettuce, Oswego B-426 Treated with Chloranil.	Germination % L90 Standard 80, F 58...BELOW STANDARD S
AGWAY, INC. * SYRACUSE, N.Y. Lookout Farms Natick	69-230 Beans, Mohawk Horticultural B 402 Treated with Captan & Dieldrin. Do not use for food, feed or oil purposes. POISON	Germination % L 92, F 80.....BELOW CLAIM M.
AGWAY, INC.* SYRACUSE, N.Y. Mass. Correctional Institution Bridgewater	69-943S Squash, Blue Hubbard Colby B228 Treated with Ceresan L & Dieldrin. Do not use for food, feed or oil purposes. POISON	In addition to, or in place of the proprietary name, "Ceresan L" the full or abbreviated chemical name, or the term mercurial is REQUIRED T
ASGROW SEED CO.* CAMBRIDGE, N.Y. De Bonis Garden Center W. Leominster	69-54 Lettuce, Prizehead, early	Germination % Standard 80, F 1...UNFIT FOR SEEDING
BRECK'S* BOSTON, MASS. Breck's Boston	69-112 Dandelion, American Improved	Germination % Standard 60, F 36..UNFIT FOR SEEDING

*Considered responsible

Table IV

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no.,kind,variety, lot no.,description.	Violations Labeled L, Found F. SERIOUS S MINOR M TECHNICAL T
BRECK'S* BOSTON, MASS. Breck's Boston	69-1117 Lettuce, matchless	Germination % Standard 80, F 21 UNFIT FOR SEEDING S
BURGESS SEED & PLANT CO.* GALESBURG, MICH. Mail Order	69-273 Lettuce, Black Seeded Simpson	Year for which packaged is REQUIRED T
BURGESS SEED & PLANT CO.* GALESBURG, MICH. Mail Order	69-274 Lettuce, Oakleaf	Year for which packaged is REQUIRED T
BURGESS SEED & PLANT CO.* GALESBURG, MICH. Mail Order	69-275 Lettuce, Great Lakes, Early Strain	Year for which packaged is REQUIRED T
BURGESS SEED & PLANT CO.* GALESBURG, MICH. Mail Order	69-276 Lettuce, Beefsteak, (Prizehead)	Year for which packaged is REQUIRED T
COMSTOCK FERRE & CO.* WETHERSFIELD, CONN. Spags Shrewsbury	69-30 Lettuce, Iceburg	Germination % Standard 80, F 64...BELOW STANDARD M
COMSTOCK FERRE & CO. * WETHERSFIELD, CONN. Essex Co. Co-op. Topsfield	69-253 Lettuce, Oakleaf	Germination % Standard 80, F 56...BELOW STANDARD S

*Considered responsible

Table IV

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description.	Violations Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
COMSTOCK FERRE & CO.* WETHERSFIELD, CONN. Essex Co. Co-operative Topsfield	69-254 Lettuce, Iceburg	Germination % Standard 80, F 61...BELOW STANDARD S
FERRY-MORSE SEED CO.* FULTON, KY. Spags Supply Shrewsbury	69-191 Lettuce, Grand Rapids	Germination % Standard 80, F 33 UNFIT FOR SEEDING
FREDONIA SEED CO.* FREDONIA, N.Y. Bradlees Dedham	69-393 Radish, Early Scarlet Globe A plastic tape with seeds embedded.	Germination % Standard 75, F 21 UNFIT FOR SEEDING Number of seeds in tape is REQUIRED
CHARLES C. HART SEED CO.* WETHERSFIELD, CONN. Essex Co. Cooperative Topsfield	69-239 Corn, Golden Bantam, 12 row 22-37474	Kind name, sweet corn, is..REQUIRED
CHARLES C. HART SEED CO.* WETHERSFIELD, CONN. Essex Co. Cooperative Topsfield	69-240 Corn, Iochief 38299-20	Kind name, sweet corn, is..REQUIRED
GEORGE W. PARK SEED CO.* GREENWOOD, S.C. Fred D. Conant Barnstable	69-567 Basil, Herb 304 Sweet Bush	For this size package, (larger than for home gardens) the lot number, the germination percent and date of test are..... REQUIRED T
GEORGE W. PARK SEED CO.* GREENWOOD, S.C. Fred D. Conant Barnstable	69-568 Borage, Herb 337 Blue	Germination % Standard %, F 38 UNFIT FOR SEEDING

*Considered responsible

Table IV

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no.,kind,variety, lot no., description.	Violations Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
GEORGE W. PARK SEED CO.* GREENWOOD, S.C. Fred D. Conant Barnstable	69-569 Basil, 294 Lettuce Leaf Violet	For this size package, (larger than for home gardens) the lot number, the germination percent and date of test are.....REQUIRED T
J.B. RICE, Jr.,INC.* SHUSHAN, N.Y. Wilson Lumber Co. Concord	69-314 Lettuce, Romaine or Cos	Germination % Standard 80, F 34 UNFIT FOR SEEDING S
ROBSON QUALITY SEEDS, INC.* HALL, N.Y. Farm Bureau Assn. Waltham	69-266 Lettuce, Oswego	Germination % Standard 80, F 25 UNFIT FOR SEEDING S
ROBSON QUALITY SEEDS, INC.* HALL, N.Y. Farm Bureau Assn. Waltham	69-375 Cress, Fine Curled (Pepper Grass)	Accepted kind name, garden cress is.....REQUIRED T
ROBSON QUALITY SEEDS, INC.* HALL, N.Y. Farm Bureau Assn. Waltham	69-376 Radish, Blend	Variety names are...REQUIRED T
WOODS SEEDS INC. WOODRUFFS DIVISION* WETHERSFIELD, CONN. De Bonis Garden Center W. Leominister	69-36 Asparagus Mary Washington	Germination % Standard 70, F 37 UNFIT FOR SEEDING S

*Considered responsible

Table IV

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description.	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
WOODS SEEDS INC. WOODRUFF DIVISION* WETHERSFIELD, CONN. Faietti Hardware Middleboro	69-540 Asparagus Mary Washington	Germination % Standard 70, F 35	UNFIT FOR SEEDING

*Considered responsible

Table V reports the violations in the labeling of flower seed as determined by laboratory tests. Of the 373 samples collected by the State Seed Inspectors 14 were found in violation of the Seed Law.

TABLE V VIOLATIONS FOUND IN

LABELING FLOWER SEEDS

LABELER/SHIPPER Seller/consignee	Lab. no.,kind,variety, lot no.,description.	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
W. ATLEE BURPEE CO.* PHILADELPHIA, PA. W.G.Grant Co. Middleboro	69-677 Aster, Giant Branching Mixed	Germination % Standard 55, F 37 BELOW STANDARD M
W.ATLEE BURPEE CO.* PHILADELPHIA, PA. Littlefield-Wyman Nurseries, Abington	69-969 Cosmos, Sensation Mixed (Germ. Std. 65%)	Packets were claimed to contain 100 seeds each, but found 64,66, and 69 in 3 packets MISLEADING-----S
FREDONIA SEED CO.* FREDONIA, N.Y. Bradlees, Inc. Teaticket	69-830 Marigold, Brownie Scout	Germination % Standard 65, F 39 UNFIT FOR SEEDING S
FREDONIA SEED CO.* FREDONIA, N.Y. Stop & Shop, Inc. Falmouth	69-852 Zinnia, Cut & Come Again, Mxd. Plastic seed strip which protects them during germ. & helps feed them during early growth.	Minimum number of seed per tape is REQUIRED-------T This laboratory questions the feeding value of the tape, neither the kinds nor the amounts of nutrients are named. M
FRED C. GLOECKNER & CO., INC.* NEW YORK, N.Y. Little Acre Nursery Fairhaven	69-582 Marigold, Chrysanthemum Flowered, Happiness	For flower seeds in this size package (larger than for home gardens) the germination percentage and date of test are REQUIRED-------T
FRED C. GLOECKNER & CO., INC.* NEW YORK, N.Y. Little Acre Nursery Fairhaven	69-583 Marigold, Dwarf French Cavalier 18-I	Germination percentage, month and year of test are REQUIRED-------T

*Considered responsible

TABLE V VIOLATIONS FOUND IN

LABELING FLOWER SEEDS (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description.	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
CHARLES C. HART SEED CO.* WETHERSFIELD, CONN. Hyannis Hardware Hyannis	69-612 Cosmos, Sensation Early, Flowering, Mixed	Germination % Standard 65, F 49 BELOW STANDARD	M
CHARLES C. HART SEED CO.* WETHERSFIELD, CONN. Hyannis Hardware Hyannis	69-614 Marigold, Harmony Hybrids, Very Free Flowering	Germination % Standard 65, F 41 UNFIT FOR SEEDING	S
CHARLES C. HART SEED CO.* WETHERSFIELD, CONN. Chace Grain Co. Westport	69-807 Ageratum, Blue Mink	Germination % Standard 60, F 37 UNFIT FOR SEEDING	S
CHARLES C. HART SEED CO.* WETHERSFIELD, CONN. Chace Grain Co. Westport	69-808 Alyssum, Royal Carpet	Germination % Standard 60, F 28 UNFIT FOR SEEDING	S
MULFORD HICKERSON CORP.* APOPKA, FLORIDA Kresge Braintree	69-396 Coleus Rainbow Mix #24 Preplanted container with vermiculite 30 seeds	Germination % Claim 55, F 13 UNFIT FOR SEEDING	S
PAGE SEED CO.* GREENE, N.Y. Lawrence Bros. Falmouth	69-707 Nasturtium Golden Gleam	Germination % Standard 60, F 28 UNFIT FOR SEEDING	S

*Considered responsible

TABLE V VIOLATIONS FOUND IN

LABELING FLOWER SEEDS (Continued)

LABELER/SHIPPER Seller/consignee	Lab. no.,kind,variety, lot no.,description.	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
SEARS,ROEBUCK & CO.* CHICAGO, ILL. Sears,Roebuck & Co. Leominister	69-114 Salvia,Bonfire, Plant Pot'N All Ready-Sown Seed Starter in a plastic tray (12 small peat pots)	Germination % Standard 50, F 0 UNFIT FOR SEEDING S
WOODS SEEDS INC. WOODRUFF DIVISION WETHERSFIELD, CONN. Eastman Hardware Falmouth	69-539 Alyssum, Royal Carpet	Germination % Standard 60, F 30 UNFIT FOR SEEDING S

*Considered responsible

Table VI reports the violations in the labeling of tree and shrub seeds as determined by laboratory tests. Of the 16 samples collected by the State Seed Inspectors 16 were found to be in violation of the Seed Law.

TABLE VI VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS

LABELER/SHIPPER Seller/consignee	Lab. no.,kind,variety, yr.col.,elev.,origin.	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-687 Acacia cyanophylla	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)....REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-888 Albizzia Julibrissin rosea (silk tree)	Percentage pure seed, year collected,locality and elevation where grown and date of test or calendar year for which packaged are------REQUIRED T (Four times)
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-689 Chamaerops humilis	Percentage pure seed,elevation where grown, and test date or Year for which packaged are --- (Three Times).... REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-690 Prunus Avium, Mazzard Cherry	Percentage pure seed, elevation where grown,germination percentage and date of test or year for which packaged are ----- (Four times).....REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-691 Cytisus scoparius	Percentage pure seed and date of test or year for which packaged are------REQUIRED T (Two times)
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-692 Elaeagnus commutata (argentea)	Percentage pure seed,elevation where grown,and test date or year for which packaged are--- (Three times).----REQUIRED T

*Considered responsible

TABLE VI VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS

(Continued)

LABELER/SHIPPER Seller/consignee	Lab.no.,kind,variety, yr.col.,elev.,origin.	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-693 Gleditsia triacanthos inermus	Percentage pure seed,elevation where grown,germination percentage and date of test or year for which packaged are--------- (Four times)----- REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-694 Hovenia dulcis	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)-----REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-695 Juglans Sieboldiana	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)----- REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-696 Malus pumila	Percentage pure seed,elevation where grown,germination percentage and date of test or year for which packaged are-------- (Four times)----- REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-697 Mespilus germanica	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)---- REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-698 Prunus americana Plum	Percentage pure seed,elevation where grown,germination percentage and date or test or year for which packaged are-------- (Four times)----- REQUIRED T

*Considered responsible

TABLE VI VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS

(Continued)

LABELER/SHIPPER Seller/consignee	Lab.no.,kind,variety, yr.col.,elev.,origin.	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-699 Prunus serotina	Percentage pure seed,elevation where grown,germination percentage and date or test or year for which packaged are--------- (Four times)------	REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-700 Tilia platyhyllos	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)----	REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-701 Viburnum Tinus	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)-----	REQUIRED T
F. W. SCHUMACHER* SANDWICH, MASS. Seed Inspector Boston	69-702 Washingtonia filifera	Percentage pure seed,elevation where grown, and test date or year for which packaged are--- (Three times)-----	REQUIRED T

*Considered responsible

COMPLIANCE TO THE SEED LAW

The following table shows how the major labelers or shippers of seed complied with the Massachusetts Seed Law. The names listed are those of seed companies, wholesale suppliers, prominently advertized divisions of larger firms or trade names appearing in large letters on the label. These names identify the suppliers which are considered as primarily responsible for the label.

The table shows for each supplier, the number of samples collected for each kind group, and the number in each group found to be in compliance or not in compliance with the Seed Law. The number of serious, minor and technical violation counts are also shown in the last three columns.

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
AGWAY, INC., SYRACUSE, N.Y.	Agric	19	18	1	1	0	1
	Mix	2	1	1	2	0	0
	Veg	29	26	3	1	1	1
	Fl	16	16	0	0	0	0
AMERICAN SEED CO., INC., LANCASTER, PA.	Veg	3	3	0	0	0	0
	Fl	7	7	0	0	0	0
AMERICAN HARDWARE, BUTLER, PA.	Mix	1	0	1	1	0	0
ASGROW-MANDEVILLE CO., CAMBRIDGE, N.Y.	Veg	18	17	1	1	0	0
	Fl	2	2	0	0	0	0
ATLANTIC SEED CO., BOUND BROOK, N.J.	Mix	1	1	0	0	0	0
BIGELOW NURSERIES, NORTHBORO, MASS.	Mix	1	0	1	1	0	0
WOODWORTH BRADLEY, INC., PROVIDENCE, R.I.	Mix	1	1	0	0	0	0
BETTER TURF SEED CO., BOUND BROOK, N.J.	Mix	1	1	0	0	0	0

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
JOSEPH BRECK & SONS BOSTON, MASS.	Veg	29	27	2	2	0	2
	Fl	24	24	0	0	0	0
BURGESS SEED & PLANT CO., GALESBURG, MICH	Veg	4	0	4	0	0	4
W. ATLEE BURPEE CO., PHILADELPHIA, PA.	Mix	1	1	0	0	0	0
	Veg	16	16	0	0	0	0
	Fl	38	36	2	1	1	0
CADIE PRODUCTS CORP., PATERSON, N.J.	Fl	2	2	0	0	0	0
COMSTOCK FERRE & Co., WETHERSFIELD, CONN.	Veg	32	29	3	2	1	0
	Fl	20	20	0	0	0	0
CONLON & DONNELLY ATTLEBORO, MASS.	Mix	1	0	1	2	0	0
CRAWFORD GARDEN SUPPLIES, INC., PROVIDENCE, R.I.	Agr	1	1	0	0	0	0
	Mix	3	1	2	0	4	2
CROSSMAN SEED CO., EAST ROCHESTER, N.Y.	Veg	30	30	0	0	0	0
	Fl	23	23	0	0	0	0
F. DIEHL & SONS WELLESLEY, MASS.	Veg	2	2	0	0	0	0
A. ERTAG INC., 535 COMMUNIPAW AVE., JERSEY CITY, N.J.	Agric	3	3	0	0	0	0
FAIRWAY SEED CO., MOONACHIE, N.J.	Mix	1	0	1	1	0	0
FARM BUREAU ASSOC., WALTHAM, MASS.	Agric	1	1	0	0	0	0
FERRY-MORSE SEED CO., FULTON, N.Y.	Veg	15	14	1	1	0	0
	Fl	37	37	0	0	0	0

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
FREDONIA SEED CO., FREDONIA, N.Y.	Mix	1	0	1	1	1	0
	Veg	19	18	1	1	0	1
	Fl	39	37	2	1	1	1
GERMAN'S KOLOCOAT SEED., GERMAN'S, LOS ANGELES, CALIF.	Fl	5	5	0	0	0	0
FRED C. GLOECKNER, NEW YORK, N.Y.	Fl	2	0	2	0	0	2
JOSEPH HARRIS & CO., MORETON FARM, ROCHESTER, N. Y.	Veg	20	20	0	0	0	0
CHARLES C. HART SEED CO., WETHERSFIELD CONN.	Mix	1	1	0	0	0	0
	Veg	58	56	2	0	0	2
	Fl	24	20	4	3	1	0
BUDD D. HAWKINS CO., INC., WETHERSFIELD, CONN.	Veg	11	11	0	0	0	0
	Fl	6	6	0	0	0	0
W.R. GRACE & CO., BUFFALO, N.Y.	Agric.	1	0	1	0	0	1
HERITAGE HOUSE CLEVELAND, OHIO	Mix	3	3	0	0	0	0
	Agric.	1	0	1	1	1	0
HYGRADE SEED CO., FREDONIA, N.Y.	Veg	4	4	0	0	0	0
	Fl	1	1	0	0	0	0
INDEPENDENCE HALL SEED CO. BALTIMORE, MD	Mix	1	0	1	1	0	0
JENKS-WHITE SEED CO., SALEM, OREGON	Agric	14	14	0	0	0	0
	Mix	1	0	1	0	0	1
KERR-McGEE CHEM., CO., OKLAHOMA CITY, OKLA.	Mix	1	0	1	3	0	0
LITTLEFIELD WYMAN NURSERIES, ARLINGTON, MASS.	Mix	1	1	0	0	0	0

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J.	Agric	5	5	0	0	0	0
	Mix	5	2	3	13	0	0
JOHN D. LYON INC., CAMBRIDGE, MASS.	Agri	2	1	1	0	1	0
	Mix	9	4	5	0	6	2
MANDEVILLE & KING CO., (ASGROW) ROCHESTER, N.Y.	Veg	12	12	0	0	0	0
	Fl	51	51	0	0	0	0
MASS. NURSERYMEN ASSOC., 715 BOYLSTON ST., BOSTON, Mass.	Mix	2	2	0	0	0	0
MULFORD HICKERSON CORP., APOPKA, FLORIDA	Fl	1	0	1	1	0	0
	Veg	1	1	0	0	0	0
NEW ENGLAND SEED CO., PROVIDENCE, R.I.	Mix	1	1	0	0	0	0
NORTHRUP KING & CO., MINNEAPOLIS, MINN	Veg	9	9	0	0	0	0
	Fl	46	46	0	0	0	0
OLD FOX AGRIC.SALES INC., PROVIDENCE R.I.	Mix	2	0	2	0	3	0
	Veg	3	3	0	0	0	0
THE PAGE SEED CO., GREENE, N.Y.	Mix	3	2	1	0	1	0
	Veg	10	10	0	0	0	0
	Fl	21	20	1	1	0	0
GEORGE W. PARK SEED CO., GREENWOOD, S.C.	Veg	3	0	3	1	0	2
PATCO PRODUCTS INC., MOONACHIE, N.J.	Mix	1	0	1	2	0	2
PHILADELPHIA SEED CO., PLYMOUTH MEETING, P.A.	Agri	7	7	0	0	0	0
	Mix	1	0	1	0	1	0
J.B.RICE JR., INC., SHUSHAN, N.Y.	Veg	8	7	1	1	0	0

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
ROBSON QUALITY SEEDS, HALL, N.Y.	Agri	3	3	0	0	0	0
	Veg	20	17	3	1	0	2
ROYES GRASS SEED INC., IMBLER,	Agric	1	1	0	0	0	0
JEROME B. RICE CAMBRIDGE, N.Y.	Fl	1	1	0	0	0	0
F.W.SCHUMACHER SANDWICH, MASS	trees	16	0	16	0	16	0
O.M.SCOTT & SONS MAYSVILLE OH	Mix	5	2	3	0	1	3
SEARS ROEBUCK & CO., CHICAGO, ILL.	Mix	3	3	0	0	0	0
	Veg	10	10	0	0	0	0
	Fl	12	11	1	1	0	0
STANFORD SEED CO., BUFFALO, N.Y.	Agir	6	6	0	0	0	0
	Mix	1	0	1	0	1	0
TURF RESEARCH GRANT PARK, ILL	Mix	1	1	0	0	0	0
VAUGHN'S SEED CO., BOUND BROOK, N.J.	Agri	1	1	0	0	0	0
	Mix	2	2	0	0	0	0
	Veg	20	20	0	0	0	0
WEAVER HILL SEED CO., 508 BENEFIT ST., PROVIDENCE, R.I.	Mix	1	0	1	2	0	0
WESTERN FARMERS ASSOC., SEATTLE, WASH	Agri	22	16	6	0	1	5
WHITNEY SEED CO., (DIV. OF W.R. GRACE & CO.), BUFFALO N.Y.	Agri	9	9	0	0	0	0

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
WOODRUFF'S DIV., (WOODS SEEDS INC.), WETHERSFIELD, CONN.	Veg	21	19	2	2	0	0
	Fl	10	9	1	1	0	0
WOODS SEEDS INC., WETHERSFIELD, CONN.	Veg	8	8	0	0	0	0

ANALYSIS OF SEED LAW VIOLATIONS

The following table shows the analysis of the points of violation found in the labeling of seed for the 1969 season.

TABLE VIII ANALYSIS OF SEED LAW VIOLATIONS 1969

Official Seed Samples	Agric. Single	Agric. Mix	Veg Seeds	Flower Seeds	Tree/ Shrub	Total
Number of samples collected	91	59	415	388	16	969
Number of samples in violation	10	29	26	14	16	95
% samples in violation	11.0%	49.2%	6.3%	3.6%	100%	9.8%
Number violation counts	12	57	27	15	53	164
Analysis of the 164 counts						
SERIOUS violations, found:						
Purity - wide disparity	1	21	0	0	0	22
Germination - wide deficiency	1	4	13	8	0	26
False or misleading statement	0	4	0	1	0	5
Total SERIOUS	2	29	13	9	0	53
MINOR violations, found:						
Purity - disparity	2	4	0	0	0	6
Germination - deficiency	0	4	2	2	0	8
Kind/variety name improper	0	2	0	0	0	2
Fine/coarse unsuitable	0	5	0	0	0	5
Information omitted/unsuitable	1	3	0	1	0	5
Total MINOR	3	18	2	3	0	26
TECHNICAL violations, found:						
Omissions	2	0	7	3	53	65
Mistakes - transcribing,etc.	0	9	0	0	0	9
Inadequacies -names, etc.	5	1	5	0	0	11
Total TECHNICAL	7	10	12	3	53	85

SUMMARY

The results of the official seed investigations for the inspection year 1969 revealed 95 or 9.8% of the 969 official samples collected to be mislabeled in at least one point of the Massachusetts Seed Law. There were 164 violation counts of which 53 were serious, 26 were minor, and 85 were technical. The analysis in Table VIII shows the serious violations were mainly due to mislabeling purity percentages of single kinds of mixtures of agricultural seeds and the poor germination of 26 samples of all classes (except tree and shrub seeds). The minor violations occurred mostly in single kinds or mixtures of agricultural seeds. These violations were mainly due to carelessness in stating kind or variety name or texture type, discrepancies in germination or purity figures and other minor mislabeling. The technical violations involved labeling errors and occurred in all classes.

TABLE IX SEED LAW VIOLATIONS 1968 to 1969 INCLUSIVE
(Number of official samples investigated and percent found in violation.)

Year	Kind group	Single Agric.	Mixtures Agric.	Vegetables	Flower	Tree/ Shrub	Total
1960	No.	59	42	421	301	-----	823
	%	3.4	50.0	3.8	25.9	-----	14.2
1961	No.	219	77	402	315	-----	1013
	%	12.8	61.0	20.0	14.0	-----	19.6
1962	No.	160	73	301	260	-----	794
	%	16.3	50.7	18.3	7.7	-----	17.4
1963	No.	123	59	388	333	-----	903
	%	8.9	44.1	9.3	11.1	------	12.2
1964	No.	232	68	463	343	-----	1106
	%	13.8	50.0	6.0	16.6	-----	13.7
1965	No.	102	62	512	340	-----	1016
	%	7.7	33.3	7.3	6.8	-----	8.8
1966	No.	109	61	401	240	-----	811
	%	7.3	42.6	8.5	2.1	-----	9.0
1967	No.	90	58	506	245	24	923
	%	27.8	32.8	9.3	9.4	0.0	12.4
1968	No.	90	63	514	259	28	954
	%	20.0	49.2	8.8	8.1	92.9	14.8
1969	No.	91	59	415	388	16	969
	%	11.0	49.2	6.3	3.6	100	9.8
10 Year	No.	128	62	432	302	23*	931
Average	%	12.9	46.3	9.8	10.5	64.3	13.2

* 3 year average

CONCLUSIONS

The quality of seeds sold in Massachusetts during the 1969 planting season compared favorably with seeds sold during the last 10 years.

Although all of the tree and shrub seeds examined were found to be inadequately labeled and mixtures of agricultural seeds (mainly lawn seed mixtures) were mislabeled more than usual, the other kind groups were labeled better than the 10 year average and the percentage of violations was 9.8% of all lots tested. This is considerably better than the average of 13.2%.

The Seed Laboratory in its efforts to help carry out the objectives of the Seed Act serves to protect the residents of the Commonwealth, by deterring the sale and use of poor quality seed, and has helped bring about the improvement in the quality of seed for at least 43 years. The vigilance of the seed inspectors and laboratory staff must be continued so as to maintain or raise standards and keep poor quality seed off the market.

SEED LABORATORY REPORT NO. 43
for 1970

by the Seed Laboratory Staff of the
Feed, Seed, Fertilizer Division

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

West Experiment Station
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Janice M. Lacinski	Junior Clerk & Stenographer
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TABLE X

SEED SAMPLES FOR THE INSPECTION YEAR 1969-1970

Kind of Seed Samples	No. Rec'd	Number of analyses Scheduled			
		Germi-nation	Purity	Noxious Weed	Other*
Official Samples					
Agricultural	118	118	118	118	0
Mixtures (190 components)	67	190	66	67	0
Vegetables and herbs	399	399	0	0	0
Flowers (1 mix, 1 roll-out garden)	276	275	0	0	1
Trees and shrubs	22	22	0	0	0
Total Official	882	1004	184	185	1
Service and Experimental					
Agricultural	95	93	64	17	0
Mixtures (32 components	14	32	11	3	2
Vegetables and herbs	452	451	0	0	1
Flowers (1 cactus mixture)	271	271	0	0	0
Trees and shrubs	4	4	0	0	0
Others (weeds and unidentified)	3	0	0	0	3
Total Service & Experimental	839	851	75	20	6
Total of all Samples	1721	1855	259	205	7
Total Tests Scheduled			2326		

* Includes fluorescence, phenol reaction, tetrazolium, cleaning, identification, and other research tests.

SEED INSPECTORS' WORK

In addition to the work of sampling and sending all official seed samples to the laboratory, the seed inspectors issued 94 stop sale orders involving 381 lots of seed. These are in addition to the violation notices issued by the Seed Laboratory.

The following Table reports the violations in the labeling of Agricultural seeds for 1970. Of the 118 samples collect by the state inspectors, 16 were found to be in violation of the Seed Law.

TABLE XI

VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS) 1970

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, Lot no., description.	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
AGWAY INC., SYRACUSE, NEW YORK* Agway, Inc., Waltham	70-23 Rye, Balbo #N83022	Germination % L 90, F 57 . . . DEFICIENT S
AGWAY INC., SYRACUSE, NEW YORK* Wrentham State School, Wrentham	70-753S Oats, Carry Cert. #W8440 Agway L Seed Treatment. Do not use for food, feed, or oil purposes.	Accepted chemical name of treatment is. . . REQUIRED T
W.R.GRACE & CO. BUFFALO, N.Y.* Essex Co. Coop. Farming Assn., Topsfield	70-374 Chewing Fescue #26436	Germination % L 85, F 41 . . . DEFICIENT S
W.R. GRACE & CO BUFFALO, N.Y.* Essex Co. Coop. Farming Assn., Topsfield	70-376 Poa Trivialis #3247	Restricted noxious weed, annual bluegrass, L 4540, F 5850 per pound . . . . . EXCESSIVE S
JENKS-WHITE SEED CO. SALEM, OREGON* J.D. Lyon, Inc., Cambridge	70-1180 Pennlawn Red Cr. Fescue #03-022-1	Weed seed content labeled and found to exceed 1% minimum allowed. PROHIBITED S

*Considered responsible.

TABLE XI VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS) 1970 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. No., Kind, variety lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
LOFT'S PEDIGREED SEED BOUND BROOK, N.J. * Loft's Pedigreed Seed, Arlington	70-259 Manhattan Perennial Ryegrass B6-9-39	Found annual bluegrass, approx. 717 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seed" is . . . . . .MANDATORY S
LOFT'S PEDIGREED SEED BOUND BROOK, N.J.* Bridgewater State Hospital, Bridgewater	70-888S Poa Trivialis #5518	Found annual bluegrass, approx. 3600 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seed" is MANDATORY S
LOFT'S PEDIGREED SEED BOUND BROOK, N.J.* J.D. Lyon, Inc., Cambridge	70-1187 Manhattan Perennial Ryegrass B-6905	Found annual bluegrass, approx. 1350 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seeds" is . . . . . .MANDATORY S
ROBSON QUALITY SEEDS, INC., HALL, N.Y. Shipped by: OVID ROLLER MILLS, OVID, MICHIGAN* Farm Bureau Assn., Waltham	70-38 Rye, Balbo #5449	Found prohibited noxious weed seed, quack grass, approx. 3 per pound. . . PROHIBITED S
ROBSON QUALITY SEEDS, INC., HALL, N.Y.* Farm Bureau Assn., Waltham	70-228 N.Y. Cert. Climax Timothy #4860 on bag Lot No. 1668	Germination % L 91, F 77 . . . DEFICIENT M
ROBSON QUALITY SEEDS, INC., HALL, N.Y. * Farm Bureau Assn., Waltham	70-231 N.Y. Cert. Pennscott Clover #4510	The accepted kind name, Red Clover, is . . . . REQUIRED T
W.G. SCARLETT & CO., BALTIMORE, MD.* Wrentham State School, Wrentham	70-1101S Alfalfa, Vernal # 9603	Germination + H.S. % L 85 + 5, F 79 + 1 . . . . . .DEFICIENT M

*Considered responsible

TABLE XI VIOLATIONS FOUND IN LABELING OF AGRICULTURAL

SEEDS (SINGLE KINDS) 1970 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab No., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
STANFORD SEED CO., PLYMOUTH MEETING, PA* Farm Bureau Assn., Waltham	70-63 Poa Trivialis #57-1849	Germination % L 85, F 68.... . .DEFICIENT S Listing of annual bluegrass, approx. 2713 per pound, under the heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M
VAUGHANS SEED CO., BOUND BROOK, N.J.* Wrentham State School, Wrentham	70-755S Perennial Ryegrass #L39-8-P2	Germination % (L none, F 87) is REQUIRED T
VAUGHANS SEED CO. BOUND BROOK, N.J.* Northampton State Hospital, Northampton	70-1429S Perennial Ryegrass #L39-8-P2	Purity % Perennial Ryegrass L 95.03, F 78.59 DEFICIENT S Annual ryegrass None declared, F 20.37 Should be labeled as a misture. . . . . MISLEADING T Found annual bluegrass, approx 49 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seeds" is . . . . . MANDATORY S
WESTERN FARMERS SEATTLE, WASH.* Farm Bureau Assn., Waltham	70-393 Pennlawn Red Fescue #M89PF71	Labeled purity % figures do not add up to 100..IN ERROR T

*Considered responsible.

The following Table reports the violations in the labeling of mixtures of Agricultural Seeds for 1970. Of the 67 samples collected by the State Inspectors 35 were found to be in violation of the Seed Law.

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970

LABELER/SHIPPER Seller/Consignee	Lab. No., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
ATLANTIC SEED CO., BOUND BROOK, N.J.* W. T. Grant Co., Chelmsford	70-332 Ascot Park Mixture #AP-70 Two components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M
ATLANTIC SEED CO., BOUND BROOK, N.J.* W.T. Grant Co., Taunton	70-857 Ascot Park Mixture #AP-70 Two Components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M
CRAWFORD GARDEN SUPPLIES, INC., PROVIDENCE, R.I.* Mid Cape Center, Inc., S. Dennis	70-774 Permablend Grass Seed Mixture #1010 Four components	Analysis and other labeling information is. . MISPLACED T
CRAWFORD GARDEN SUPPLIES, INC., PROVIDENCE, R.I.* L. Grossman & Sons, Buzzards Bay	70-822 Park Lawn Grass Seed Mixture #3006 Six components	Analysis and other labeling information is. . MISPLACED T Accepted kind name Alta tall fescue is. . . . . REQUIRED T
CRAWFORD GARDEN SUPPLIES, INC., PROVIDENCE, R.I.* H. Schwartz & Sons, Fall River	70-873 URI # 1 Three components	Listing of annual bluegrass, name and no. per pound,under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M Lot no. and date of test are. . . . . .MISPLACED T REPEATED VIOLATION
GEORGE A. DAVIS INC. CHICAGO, ILL.* Turnstyle, Waltham	70-323 Sunny Super-fine Grass Seed Mixture #HG2070 Four Components	Listing of Redtop as a fine textured grass isDISALLOWED M Germination % Festuca rubra L 85, F 68 DEFICIENT S

*Considered responsible.

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, Lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
GEORGE A.DAVIS CHICAGO, ILL.* Turnstyle, Waltham	70-324 Shady Superfine #HG 2170 Four components	Germination % Red Fescue L 85, F 42. . . .	DEFICIENT S
F. DIEHL & SON WELLESLEY, MASS* F. Diehl & Son, Wellesley	70-319 Diehl's Sunny Mixture #7-746 Five components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .	REQUIRED M
W.R.GRACE & CO., BUFFALO, N.Y.* Garden Toolhouse Wellesley	70-317 Toolhouse Lawn Seed Mixture #4170 Four components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .	REQUIRED M
W.R.GRACE & CO., BUFFALO, N.Y.* Essex Co. Coop. Farming Assn., Topsfield	70-372 Hayland # 2 Mixture #13070 Four components	Purity % Alfalfa L 14.70, F 7.62	DEFICIENT M
		Redtop L 9.20, F. 8.00	DEFICIENT M
		Timothy L 44.77, F 57.02	EXCESSIVE S
CHAS. HART SEED CO., WETHERSFIELD, CONN.* Hyannis Hardware, Hyannis	70-581 Hart's Lawn Seed Mixture for Fine Lawns #B-4 Three components	Purity % Other crop seed L .34, F 4.21	EXCESSIVE S
CHAS. HART SEED CO., WETHERSFIELD, CONN.* Birch N Bend Garden Center, Chicopee Falls	70-1410 Birch N Bend Multi Purpose Lawn Seed # 66 Four components	The kind name "Fancy Redtop" is.....	DISALLOWED T
HERITAGE HOUSE PRODUCTS CLEVELAND, OHIO* Bigelow Dowse Co., Needham	70-348 Shady Lawn Mixture #520-09 Four components	Label printed in less than 8 point type is	INADEQUATE T

*Considered responsible.

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
INDEPENDENCE HALL SEED CO., BALTIMORE, MD.* Kerr Mill Garden Center, Fall River	70-865 Independence Hall Park Grass Seed Mixture #IHNSE Three components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M
INDEPENDENCE HALL SEED CO., BALTIMORE, MD.* RB Negus Lumber Co., Swansea	70-874 Bare Spot R Grass Seed & Feed Mixture. Will cover 40 sq. ft. of bare spots Contains 3% total nitrogen #J148M Three seed components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M Stated to contain 46.25% inert matter. Over 20% inert matter is . . . .PROHIBITED S The statements "Seeds,Feeds, Greens","easiest method to green up any kind of grass," "will thicken and improve the grass" leads consumer to expect a seed mixture to improve his grass and ample fertilizer for his lawn. Mixture actually contains mainly coarse grasses and less than 1/5 minimum amount of fertilizer recommended by agrostologists..EXAGGERATED S
INDEPENDENCE HALL SEED CO., BALTIMORE, MD.* RB Negus Lumber Co., Swansea	70-875 Quick Sprout Grass Seed 4 lbs. Special Combination Offer 1 lb. Bare Spot R inside Package #J142M1 Six components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M Labeling information for inside container must be conspicuously displayed on outside box . . . NEGLIGENT T Upon opening box, no inside container was found but a 1 lb. box of Bare Spot R was attached with adhesive tape. . . . .MISREPRESENTED S

* Considered responsible

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970 (CONTINUED)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
JENKS-WHITE SEED CO., SALEM, OREGON* J.D. Lyon, Inc. Cambridge	70-1148 Creeping Red Fescue & ryegrass #09-3598	Purity % Red Fescue L 92.79, F 97.04..EXCESSIVE M Annual ryegrass L 6.67, F 2.86. . DEFICIENT M
KAHN BROS., CO. CHICAGO, ILL.* Cole Paint, Wall-paper, & Hdwr., Andover	70-363 Servess Mixture-Free of Crab-grass #70-1 Three components	Statement "free of crabgrass" implies that seed not so labeled probably contains crabgrass. . . . MISLEADING T
LOFTS PEDIGREED SEED CO., ARLINGTON, MASS.* Palm Grain & Seed Co., Lowell	70-279 Palm's AP Mixture (Special Blend) #P AP 70-9 Five components	Labeled purity % figures do no add up to 100. . . IN ERROR T Purity % Ky. bluegrass L 17.00, F 10.73..DEFICIENT S Ryegrasses L 63.70, F 79.53..EXCESSIVE M
LOFTS PEDIGREED SEED CO., ARLINGTON, MASS.* Palm Grain & Seed Co., Lowell	70-280 Pacemaker Mixture #PP70-8 Four components	Purity % Ky. bluegrass L 34, F 19.88. . .DEFICIENT S Fescue vars. L 39, F 50.75 . . EXCESSIVE S Italian ryegrass L 19.6, F 26.13..EXCESSIVE M
LOFTS PEDIGREED SEED CO., BOUND BROOK, N.J.* W. T. Grant Co., Taunton	70-858 Laurel Green Brand Grass Seed Mixture#A96 Two components	Listing of annual bluegrass, name and no. per pound, under heading "Restricted Noxious Weed Seeds" is. . .REQUIRED M
JOHN D. LYON INC., CAMBRIDGE, MASS.* East Boston Housing Authroity Boston	70-397S Lawn Grass Seed Mixture # 14229 Four components	Found approx. 52 annual blue-grass seed per pound. Listing of name and no. per pound under heading "Restricted Noxious Weed Seed" is . . . . . MANDATORY S

*Considered responsible.

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
JOHN D. LYON, INC., CAMBRIDGE, MASS.* J.D. Lyon, Cambfidge	70-1135 Builder's Special Lawn Mixture #1470 Four components	Proper kind name, tall fescue, for variety Kentucky 31 fescue is. . . . . REQUIRED T
JOHN D. LYON, INC., CAMBRIDGE, MASS,* J.D.Lyon Cambridge	70-1143 Manhattan Merion Mixture #170 Two components	Listing of ryegrass under heading "Fine Textured Grasses" is. . . . . .DISALLOWED M
		Proper kind name, perennial ryegrass, for Manhattan ryegrass is. . . . . .REQUIRED T
		Found annual bluegrass, approx. 1180 per pound. Listing name and no. per pound under heading "Restricted Noxious Weed Seeds" is. . . . . MANDATORY S
JOHN D. LYON, INC., CAMBRIDGE, MASS.* J.D.Lyon, Cambridge	70-1146 Deep Shade or Woodland Lawnseed #770 Three components	Proper kind name, Astoria Colonial Bentgrass, is . . . . . .REQUIRED T
JOHN D.LYON, INC., CAMBRIDGE, MASS.* J.D. Lyon Cambridge	70-1178 Lyon Merion Playfield Mixture #670 Three components	Found annual bluegrass, approx. 403 per pound. Listing name and no. per pound under heading "Restricted Noxious Weed Seeds" is. . . . . MANDATORY S
JOHN D. LYON, INC., CAMBRIDGE, MASS.* J.D.Lyon, Cambridge	70-1177 Mass. DPW Slope Mixture #856 Five components	Listing of grass seeds under headings "Fine Textured Grasses" and"Coarse Kinds" is . . . . . .REQUIRED M
		Proper kind name, Alta tall fescue, is. . . . .REQUIRED T
		The kind name "Domestic ryegrass" is. . . . DISALLOWED T
		The kind name "Chewings creeping red fescue" is . . . . . .DISALLOWED T

* Considered responsible.

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
MASS. NURSERYMEN'S ASSN., BOSTON, MASS.* Wagon Wheel Nursery Lexington	70-321 Shady Tuff Mixture # 9-107 Four components	Found approx. 156 annual blue grass seeds. Name and no. per pound under heading "Restricte Noxious Weed Seeds" is . . . . . MANDATORY S
MASS. NURSERYMEN'S ASSN., BOSTON, MASS.* Wagon Wheel Nursery, Lexington	70-322 Mass. Turf Mixture # 9-106 Four components	Germination % Ky. bluegrass L 80, F 65 . . . .DEFICIENT M
OLD FOX AGRIC. SALES, PROVIDENCE, R.I.* Nadeau's Hardware, Swansea	70-872 Nadeau's Seed Mixture # 1, lot NMO-1 Three components	Listing of grass seeds under the headings "Fine Textured Grasses" and "Coarse Kinds" is. . . . . REQUIRED M
O.M.SCOTT & SONS MARYSVILLE, OHIO* Bigelow Nurseries Inc., Northboro	70-83 Scotts Blend 35% Windsor Thiram fungicide, do not use for food, feed, or oil purposes "011-1100" Three components	Listing of hard fescue as a fine textured grass is . . . . . .DISALLOWED M Gurantee expiration date, June, 1971, implies to the layman it is legal for the seed to be sold until then, whereas legal expiration date is October, 1970. Postdating implication is. MISLEADING T REPEATED VIOLATION
O.M. SCOTT & SONS MARYSVILLE, OHIO * Grossman Inc., Wellesley	70-195 Scotts Quick Cover Grass Seed Mixture #013-1600 Three components	Guarantee expiration date of June, 1971, postdates legal expiration date of October, 1970. This is. . . . . MISLEADING T REPEATED VIOLATION
O.M. SCOTT & SONS, MARYSVILLE, OHIO* Cole Wallpaper, Paint, & Hdwre., Andover *	70-362 Blend 70 with 70% Windsor #710-82 Thiram fungicide, do not use for food, feed, or oil purposes Two components	Collected 5/1/70, more than 2 years after the labeled germination test date . . . . . EXPIRED M

* Considered responsible

TABLE XII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
VAUGHANS SEED CO., DOWNERS GROVE, ILL,* Wilson Lumber Co., Concord	70-196 NK100 Merion (NEW) Grass Seed Mixture # 1089 Two components	Listing of NK100 perennial ryegrass as fine textured grass is. . . . .DISALLOWED M Listing of annual bluegrass, no. per pound, under heading "Restricted Noxious Weed Seed" is. . . . . .REQUIRED M
WAGNER BROS. CORP., BROOKLYN, N.Y. * First National Store, Somerville	70-244 Finest Perennial Lawnseed Mixture #WB765 Three components	Found Galium seed, approx. 234 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seeds" is. . . . .MANDATORY S

* Considered responsible

The following Table reports the violation in the labeling of vegetable seed as determined by laboratory tests for 1970. Of the 399 samples collected by the State Seed Inspectors, 12 were found to be in violation of the Seed Law.

TABLE XIII

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS 1970

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
W.ATLEE BURPEE CO., PHILADELPHIA, PA.* Richmond & Co., Brockton	70-562 Lettuce, Dark Green Boston	Germination % L 80, F 44 . . . . . UNFIT FOR SEEDING	S
SEARS ROEBUCK & CO., CHICAGO, ILL.* Sears Roebuck & Co., Leominster	70-104 Lettuce, Oak Leaf	Germination % Standard 80, F 57 . . . . . .BELOW STANDARD	S
SEARS ROEBUCK & CO., CHICAGO, ILL.* Sears Roebuck & Co., Burlington	70-328 Tomato, Supermarket 50 mg	Number of seeds in a pre-planted container is . . . . . .REQUIRED	T
SEARS ROEBUCK & CO., CHICAGO, ILL.* Sears Roebuck & Co., Burlington	70-329 Hybrid Broccoli, Prime 80 mg. seed pre-planted container	Number of seeds in a pre-planted container is . . . . . .REQUIRED	T
R.H. SHUMWAY SEEDS* MEN, ROCKFORD, ILL.* Mail order	70-1301 Beans, New Kidney Stringless Wax	Date of test or year for which packaged is..REQUIRED	T
R.H. SHUMWAY SEEDS-MEN, ROCKFORD, ILL.* Mail Order	70-1302 Beets, Detroit Dark Red	Date of test or year for which packaged is..REQUIRED	T
R.H. SHUMWAY SEEDS-MEN, ROCKFORD, ILL.* Mail Order	70-1303 Cucumber	Date of test or year for which packaged is..REQUIRED	T

*Considered responsible.

TABLE XIII

VIOLATIONS FOUND BY LABORATORY TESTS IN LABELING

VEGETABLE SEEDS (Continued) 1970

LABELER/SHIPPER Seller/ Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
R.H. SHUMWAY SEEDSMEN, ROCKFORD, ILL.* Mail Order	70-1304 Cabbage, Late Flat Dutch	Date of test or year for which packaged is..	REQUIRED T
R.H. SHUMWAY SEEDSMEN, ROCKFORD, ILL.* Mail Order	70-1305 Lettuce, Iceburg	Date of test or year for which packaged is..	REQUIRED T
R.H. SHUMWAY SEEDSMEN, ROCKFORD, ILL.* Mail Order	70-1306 Sweet Corn, Golden Beauty Hybrid	Date of test or year for which packaged is..	REQUIRED T
R.H. SHUMWAY SEEDSMEN, ROCKFORD, ILL.* Mail Order	70-1307 Beans, Giant Stringless Green Pod	Date of Test or year for which packaged is..	REQUIRED T
VAUGHANS SEED CO., DOWNERS GROVE, ILL.* De Vincent Farms, Waltham	70-239 Chicory, Asparagus	Germination % L 70, F 52...	BELOW STANDARD M

*Considered responsible.

The following Table reports the violations in the labeling of flower seed as determined by laboratory tests for 1970. Of the 276 samples collected by the State Seed Inspectors 14 were found in violation of the Seed Law.

TABLE XIV VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1970

LABELER/SHIPPER Seller/Consignee	Lab no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
GEORGE J. BALL, INC., CHICAGO, ILL.* H.V.Lawrence Falmouth	70-519 Zinnia, State Fair Giant Tetra Rose and Salmon Shades 1/4 oz.	For flower seeds in this size packet, month and year of test and germination % are. . . . . REQUIRED T
W.ATLEE BURPEE, PHILADELPHIA, PA.* H.V.Lawrence Falmouth	70-516 Sweet Alyssum, Little Gem Pure White ¼ oz.	For flower seeds in this size packet, month and year of test and germination % are. . . . . REQUIRED T
W. ATLEE BURPEE, PHILADELPHIA, PA.* H.V. Lawrence Falmouth	70-517 Chinese Forget-me-not, Firmament Indigo Blue 1/8 oz.	For flower seed in this size packet, month and year of test are. . . . . .REQUIRED T Germination % Standard 55, F 2 . . . . . UNFIT FOR SEEDING S
W. ATLEE BURPEE PHILADELPHIA, PA.* H.V. Lawrence Falmouth	70-518 Aster, Burpee-ana Early Aster, Bonnie Blue Clear Indigo Blue 1/16 oz.	For flower seeds in this size packet, month and year of test and germination % are. . . . . REQUIRED T
JOSEPH HARRIS CO., ROCHESTER, N.Y. * Figueriedo's Greenhouse Inc., Westport	70-504 Alyssum, Carpet of Snow White 1 oz. Lot # 610	For flower seeds in this size packet, month and year of test are. . . . REQUIRED T
JOSEPH HARRIS INC., ROCHESTER, N.Y.* Figueiredo's Greenhouse Inc., Westport	70-505 Dimorphotheca, African Daisy, Single Mixed Colors (White, Buff, Orange, and Salmon) Lot # 19 ½ oz.	For flower seeds in this size packet, month and year of test are. . . . REQUIRED T

*Considered responsible.

TABLE XIV VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1970 (CONTINUED)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
CHAS. HART SEED CO., WETHERSFIELD, CONN.* Hyannis Hardware, Hyannis	70-576 Aster, Giant Comet Choice Mixed Colors	Germination % Standard 55, F 21 . . . . . UNFIT FOR SEEDING S
CHAS. HART SEED CO., WETHERSFIELD, CONN.* W. C. Fuller Co., Mansfield	70-819 Pinks, Dianthus Finest Single & Double Mixed Colors	Germination % Standard 70, F 51 . . . . . BELOW STANDARD M
HERBST BROTHERS, BREWSTER, N.Y.* Wajda Gardens, Westford	70-166 Marigold, African Golden Mum Lot # 6950	Year for which packaged is. . . . . .REQUIRED T Germination % Standard 65, F 13 . . . . . UNFIT FOR SEEDING S
MANDEVILLE KING CO., ROCHESTER, N.Y.* Acton Supply, Acton	70-361 Sweet Peas, Shirley Temple Lot # 909	Germination % Standard 75, F 62.DEFICIENT M
SEARS ROEBUCK & CO., CHICAGO, Ill * Sears Roebuck & Co. Co., Saugus	70-216 Bachelors Buttons, Dble Blue Treated with Captan. Don't eat seed.	Germination % Standard 60, F 40 . . . . . BELOW STANDARD M
SEARS ROEBUCK & CO., CHICAGO, ILL.* Sears Roebuck & Co., Saugus	70-218 Larkspur, Dble Mixed Treated with Captan Don't eat seed.	Germination % Standard 60, F 42 . . . . . .BELOW STANDARD M
SEARS ROEBUCK & CO., CHICAGO, ILL.* Sears Roebuck & Co., Burlington	70-330 Snapdragon, Tetra Mixed Contains 20 mg. seed, preplanted container	Number of seeds in preplanted container is . . . REQUIRED T
WOODRUFFS DIV., WETHERSFIELD, CONN.* Faietti Hardware Middleboro	70-828 Phlox Drummondi Grandiflora Mixed Colors	Germination % Standard 55, F 30 . . . . . UNFIT FOR SEEDING S

*Considered responsible.

The following Table reports the violations in the labeling of tree and shrub seeds as determined by laboratory tests for 1970. Of the 22 samples collected by the State Seed Inspectors 20 were found to be in violation of the Seed Law.

TABLE XV VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1970

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety yr. col., elev., origin	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
HERBST BROTHERS INC., BREWSTER, N.Y. * Mail Order	70-1308 Picea Abies Norway Spruce Adirondack Mt.	Elevation where grown is.	REQUIRED T
		Yr. collected is. .	REQUIRED T
		Date of test is. .	REQUIRED T
		Germination % is. .	REQUIRED T
HERBST BROTHERS INC., BREWSTER, N.Y.* Mail Order	70-1309 Pinus Strobus Adirondack Mt. #4858	Elev. where grown..	REQUIRED T
		Yr. collected is. .	REQUIRED T
		Date of test is. .	REQUIRED T
		Germination % is. .	REQUIRED T
HERBST BROTHERS INC., BREWSTER, N.Y.* Mail Order	70-1310 Acer Saccharum Sugar Maple # 4200 ¼ lb.	Locality and elevation where grown is.	REQUIRED T
		Yr. collected is. .	REQUIRED T
		Date of test is. ..	REQUIRED T
		Germination % is. .	REQUIRED T
		% pure seed is . . .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-587 Gleditsia Triacanthos No. Italy #1969	Elev. where grown .	REQUIRED T
		Date of test is. .	REQUIRED T
		Germination % F 28 . . . . . UNFIT FOR SEEDING	S

*Considered responsible.

TABLE XV VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1970 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, yr. col., elev., origin	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot Falmouth	70-588 Pinus Cembra, Swiss Stone Pine Italy 4000 ft.	Date of test is. .	REQUIRED T
		Germination % F 15 . . . . . UNFIT FOR SEEDING	S
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-589 Prunus Americana American Plum Republic County, Kansas 1969	Date of test is. .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot Falmouth	70-590 Prunus Armenica Ansu, Ansu Apricot Japan 1968	Date of Test is. .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-591 Prunus Avium Sylvestris Mazzard Cherry, Austria 1969	Elev. where grown..	REQUIRED T
		Date of test is. .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-592 Prunus Persica Atropurprea Red Leaf Peach Tenn. 1969	Elev. where grown..	REQUIRED T
		Date of test is. .	REQUIRED T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot Falmouth	70-593 Prunus Cerasifera, Myrosbolan Plum 1969 Austria	Date of test is. .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-594 Prunus Serotina Black Cherry Belgium 1968	Elev. where grown..	REQUIRED T
		Date of test is. .	REQUIRED T

*Considered responsible.

TABLE XV VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1970 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, yr, col., elev., origin	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot Falmouth	70-595 Robinia Pseudoacacia, Black Locust 1969 N. Italy	Elev. where grown..	REQUIRED T
		Date of test is. .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot Falmouth	70-596 Rosa Multiflora, Thorny, Japan 1969?	Locality and elevation where grown is.	REQUIRED T
		Yr. collected is. .	REQUIRED T
		Date of test is. .	REQUIRED T
		Germination % is..	REQUIRED T
		Germination % F 13	DEFICIENT S
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-597 Thuja Orientalis, Oriental Arborvitae	Date of test is. .	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-598 Acer Campestre 1969 N. Italy	Elev. where grown .	REQUIRED T
		Date of test is. .	REQUIRED T
		Germination % is. .	REQUIRED T
		% pure seed is. . .	REQUIRED T
		Germination % F 2	UNFIT FOR SEEDING S
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-599 Acer Saccharium 1969 Warren Co. Tenn.	Elev. where grown	REQUIRED T
		Date of test is	REQUIRED T
		Germination % is	REQUIRED T
		Germination % F 39	DEFICIENT S

* Considered responsible.

TABLE XV VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1970 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, yr. col., elev., origin	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-600 Ailanthus Altissima 1 lb.	Locality and elevation where grown is. . . . . .REQUIRED T
		Yr. collected is. .REQUIRED T
		Germination % is. .REQUIRED T
		% pure seed is. . .REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-601 Betula Pendula (Alba) ¼ lb.	Locality and elevation where grown is. . . . . .REQUIRED T
		Yr. collected is . REQUIRED T
		Germination % is. .REQUIRED T
		% pure seed is. . .REQUIRED T
		Germination % F 3 . . . . . UNFIT FOR SEEDING S
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-602 Fraxinus Excelsior Pendula No. Italy ¼ lb.	Locality and elevation where grown is. . . . . .REQUIRED T
		Yr. collected is. .REQUIRED T
		Date of test is. . REQUIRED T
		Germination % is. .REQUIRED T
		% pure seed is. . .REQUIRED T
		Germination % F 35 DEFICIENT S
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot Falmouth	70-931 Ulmus Americana American Elm Floyd Co., Iowa 1 lb.	Date of test is. . REQUIRED T
		Germination % is. .REQUIRED T

* Considered responsible.

COMPLIANCE TO THE SEED LAW 1970 TABLE XVI

The following table shows how the major labelers or shippers of seed complied with the Massachusetts Seed Law. The names listed are those of seed companies, wholesale suppliers, prominently advertised divisions of larger firms, or trade names appearing in large letters on the label. These names identify the suppliers which are considered as primarily responsible for the label.

The table shows, for each supplier, the number of samples collected for each kind group and the number in each group found to be in compliance or not in compliance with the Seed Law. The number of serious, minor, and technical violation counts are also shown in the last three columns.

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1970

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
AGWAY, INC.	Agric	14	12	2	1	0	1
SYRACUSE, N.Y.	Veg	30	30	0	0	0	0
	Fl	10	10	0	0	0	0
AMERICAN SEED CO.	Veg	12	12	0	0	0	0
INC., LANCASTER, PA.	Fl	8	8	0	0	0	0
AMERICAN HARDWARE BUTLER, PA.	Mix	1	1	0	0	0	0
ASGROW-MANDEVILLE	Veg	18	18	0	0	0	0
CO., CAMBRIDGE, N.Y.	Fl	5	5	0	0	0	0
ATLANTIC SEED CO. BOUND BROOK, N.J.	Mix	2	0	2	0	2	0
GEORGE J. BALL, INC. WEST CHICAGO, ILL	Fl	1	0	1	0	0	1
WOODWORTH BRADLEY, INC., PROVIDENCE, R.I.	Mix	2	2	0	0	0	0
JOSEPH BRECK & SONS	Veg	32	32	0	0	0	0
BOSTON, MASS.	Fl	27	27	0	0	0	0
W. ATLEE BURPEE CO.	Veg	23	22	1	1	0	0
PHILADELPHIA, PA	Fl	27	24	3	1	0	3
CHACE GRAIN CO. WETHERSFIELD, CONN	Veg	1	1	0	0	0	0

TABLE XVI

COMPLIANCE OF SEED DEALERS TO THE SEED LAW (Continued)

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
COMSTOCK FERRE & CO.	Veg	24	24	0	0	0	0
WETHERSFIELD, CONN.	Fl	14	14	0	0	0	0
CRAWFORD GARDEN SUPPLIES, INC. PROVIDENCE, R.I.	Mix	3	0	3	0	1	4
CROSSMAN SEED CO.	Veg	17	17	0	0	0	0
EAST ROCHESTER, N.Y.	Fl	26	26	0	0	0	0
GEORGE A. DAVIS, INC.	Agric	1	1	0	0	0	0
CHICAGO, ILL.	Mix	2	0	2	2	1	0
F. DIEHL & SONS WELLESLEY, MASS	Mix	3	2	1	0	1	0
ELANCO PRODUCTS INDIANAPOLIS, IND.	Mix	1	1	0	0	0	0
FERRY-MORSE SEED CO.	Veg	20	20	0	0	0	0
FULTON, N.Y.	Fl	16	16	0	0	0	0
FREDONIA SEED CO.	Veg	29	29	0	0	0	0
FREDONIA, N.Y.	Fl	11	11	0	0	0	0
GERMAIN'S, INC. LOS ANGELES, CALIF.	Fl	4	4	0	0	0	0
W.R. GRACE & CO.	Agric	14	12	2	2	0	0
BUFFALO, N.Y.	Mix	7	5	2	1	3	0
GREAT WESTERN SEED CO., ALBANY OREGON	Agric	1	1	0	0	0	0
JOSEPH HARRIS & CO.	Veg	6	6	0	0	0	0
ROCHESTER, N.Y.	Fl	2	0	2	0	0	2
CHAS. C. HART	Mix	3	1	2	1	0	1
SEED CO.,	Veg	53	53	0	0	0	0
WETHERSFIELD, CONN.	Fl	21	19	2	1	1	0

TABLE XVI

COMPLIANCE OF SEED DEALERS TO THE SEED LAW (Continued)

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
BUDD D. HAWKINS, CO. WETHERSFIELD, CONN.	Veg	14	14	0	0	0	0
HERBST BROS. INC. BREWSTER, N.Y.	Fl	1	0	1	1	0	1
	Trees	3	0	3	0	0	13
HERITAGE HOUSE CLEVELAND, OHIO	Mix	2	1	1	0	0	1
A.H. HOFFMAN SEED, INC. LANDISVILLE, PA.	Agric	1	1	0	0	0	0
INDEPENDENCE HALL SEED CO., BALTIMORE, MD	Mix	3	0	3	3	3	1
JACKLIN SEED CO. DISHMAN, WASH	Agric	1	1	0	0	0	0
JACQUES SEED CO. PRESCOTT, WISC	Agric	2	2	0	0	0	0
JENKS-WHITE SEED CO. SALEM, OREGON	Agric	7	6	1	1	0	0
	Mix	2	1	1	0	2	0
KAHN BROS. CHICAGO, ILL.	Mix	1	0	1	0	0	1
KERR-McGEE CHEM., CO. OKLA. CITY, OKLA.	Mix	1	1	0	0	0	0
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J.	Agric	8	5	3	3	0	0
	Mix	6	3	3	3	3	1
JOHN D. LYON, INC. CAMBRIDGE, MASS.	Agric	6	6	0	0	0	0
	Mix	12	6	6	3	2	6
MANDEVILLE & KING CO. (ASGROW) ROCHESTER, N.Y.	Fl	11	10	1	0	1	0

TABLE XVI

COMPLIANCE OF SEED DEALERS TO THE SEED LAW (Continued)

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
MASS NURSERYMEN BOSTON, MASS.	Mix	3	1	2	1	1	0
NORTHRUP KING & CO. MINNEAPOLIS, MINN.	Veg	25	25	0	0	0	0
	Fl	34	34	0	0	0	0
OLD FOX AGRIC. SALES PROVIDENCE, R.I.	Agric	4	4	0	0	0	0
	Mix	1	0	1	0	1	0
PAGE SEED CO. GREENE, N.Y.	Veg	3	3	0	0	0	0
POV PRODUCTS NEW YORK, N.Y.	Mix	1	1	0	0	0	0
JEROME B. RICE CAMBRIDGE, N.Y.	Veg	5	5	0	0	0	0
	Fl	5	5	0	0	0	0
J.B. RICE JR., INC. SHUSHAN, N.Y.	Veg	15	15	0	0	0	0
	Fl	11	11	0	0	0	0
ROBSON QUALITY SEEDS HALL, N.Y.	Agric	7	4	3	1	1	1
	Veg	14	14	0	0	0	0
	Fl	2	2	0	0	0	0
WM. G. SCARLETT & CO. BALTIMORE, MD.	Agric	6	5	1	0	1	0
	Mix	1	1	0	0	0	0
F.W. SCHUMACHER SANDWICH, MASS.	Trees	19	2	17	7	0	41
O.M. SCOTT & SONS MARYSVILLE, OHIO	Mix	3	0	3	0	2	2
SEABOARD SEED CO. BRISTOL, ILL.	Agric	1	1	0	0	0	0
SEARS ROEBUCK & CO. CHICAGO, ILL.	Veg	21	18	3	1	0	2
	Fl	11	8	3	0	2	1
R.H. SHUMWAY ROCKFORD, ILL.	Veg	7	0	7	0	0	7

TABLE XVI

COMPLIANCE OF SEED DEALERS TO THE SEED LAW (Continued)

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
SMITH SEED CO. BEAVERTON, OREGON	Agric	1	1	0	0	0	0
STANFORD SEED CO. BUFFALO, N.Y. & PLYMOUTH MTG., PA	Agric	5	4	1	1	1	0
	Mix	1	1	0	0	0	0
UNION WADDING CO. POWTUCKET, R.I.	Fl	1	1	0	0	0	0
UNIVERSITY HERB MART AMHERST, MASS.	Veg	1	1	0	0	0	0
VAUGHAN'S SEED CO. BOUND BROOK, N.J.& DOWNER'S GROVE, ILL.	Agric	7	5	2	2	0	2
	Mix	1	0	1	0	2	0
	Veg	19	18	1	0	1	0
	Fl	11	11	0	0	0	0
WAGNER BROS. CORP. BROOKLYN, N.Y.	Mix	4	3	1	1	0	0
WESTERN FARMER'S ASSN. SEATTLE, WASH	Agric	32	31	1	0	0	1
GARFIELD WILLIAMSON CO. INC., JERSEY CITY, N.J.	Mix	1	1	0	0	0	0
WOODRUFF'S DIVISION (WOOD'S SEED INC.) WETHERSFIELD, CONN.	Veg	10	10	0	0	0	0
	Fl	17	16	1	1	0	0

ANALYSIS OF SEED LAW VIOLATIONS 1970

The following table shows the analysis of the points of violation found in the labeling of seed for the 1970 season.

TABLE XVII ANALYSIS OF SEED LAW VIOLATIONS 1970

Official Seed Samples	Agric Single	Agric. Mix	Veg Seeds	Flower Seeds	Tree/ Shrub	Total
Number of samples collected	118	67	399	276	22	882
Number of samples in violation	16	35	12	14	20	97
% samples in violation	13.6%	52.2%	3.0%	5.1%	90.9%	11.0%
Number of violation counts	19	56	12	16	61	164
Analysis of the 164 counts						
SERIOUS violations, found:						
Purity- wide disparity	8	11	0	0	0	19
Germination - wide deficiency	3	2	2	4	7	18
False or misleading statement	0	2	0	0	0	2
Total SERIOUS	11	15	2	4	7	39
MINOR violations, found:						
Purity - disparity	0	6	0	0	0	6
Germination - deficiency	2	1	1	4	0	8
Fine/coarse unsuitable	0	6	0	0	0	6
Information omitted/unsuitable	1	11	0	0	0	12
	3	24	1	4	0	32
TECHNICAL violations, found:						
Kind/variety name improper	1	8	0	0	0	9
Omissions	2	0	9	8	54	73
Mistakes	1	5	0	0	0	6
Inadequacies-descriptions,etc.	1	1	0	0	0	2
Misleading implications	0	3	0	0	0	3
Total TECHNICAL	5	17	9	8	54	93

SUMMARY 1970

The results of the official seed investigations for the inspection year 1970 revealed 97 or 11.0% of the 882 official samples collected to be mislabeled in at least one point of the Massachusetts Seed Law. There were 164 violation counts of which 39 were serious, 32 were minor, and 93 were technical. The analysis in Table XVII shows that the serious violations were mainly due to mislabeling purity percentages (including presence of prohibited and restricted noxious weed seed) in agricultural seed, both single kinds and mixtures, and in poor germination of all classes. The minor violations occured mainly in mixtures of agricultural seeds. These violations were mainly due to carelessness in stating texture type, failure to provide the proper headings for restricted noxious weed seeds, and minor discrepancies in purity figures. The technical violations were mainly improper kind or variety names in agricultural seeds and omission of required data on seeds of trees, shrubs, vegetables (large packets), and flowers (large packets).

SEED LABORATORY REPORT NO. 44
for 1971

by the Seed Laboratory Staff of the
Feed, Seed, Fertilizer Division

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD & NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

West Experiment Station
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Waldo C. Lincoln, Jr.	Instructor & Germination Analyst
Janice M. Lacinski	Senior Clerk & Stenographer
*Debra M. K. Streeter	Junior Clerk & Stenographer
Elaine S. Brooks	Junior Clerk & Stenographer
Eleanor B. Mosher	Research Technician

* Resigned, September, 1971

TABLE XVIII SEED SAMPLES FOR THE INSPECTION YEAR 1970-1971

Kind of Seed Samples	No. Rec'd	Number of analyses scheduled			
		Germi-nation	Purity	Noxious Weed	Other*
Official Samples					
Agricultural	74	74	74	74	5
Mixtures (172 componenets)	62	172	62	62	41
Vegetables and herbs	410	410	0	0	0
Flowers (5 mixtures)	262	278	0	0	0
Trees and shrubs	19	19	0	0	0
Total Official	827	953	136	136	46
Service and Experimental					
Agricultural	97	95	29	0	7
Mixtures (47 components)	20	47	10	0	1
Vegetables and herbs	326	326	0	0	0
Flowers (2 mixtures)	503	509	0	0	0
Trees and shrubs	1	1	0	0	0
Others (weeds,unidentified)	22	0	0	0	22
Total Service & Experimental	969	978	39	0	30
Total of All Samples	1796	1931	175	136	76
Total Tests Scheduled			2318		

*Includes fluorescence, phenol reaction, tetrazolium, cleaning, identification, and other research tests.

TOBACCO SEED SERVICE 1971

The Seed Laboratory cleaned 5 lots of tobacco seed. The gross weight of the seed was 6.11 pounds and the net weight after cleaning was 4.91 pounds. These 5 lots and 2 more samples of seed were tested for germination for tobacco growers in the Commonwealth.

SEED INSPECTORS' WORK

During the official seed inspection year 1971, the seed inspectors issued 90 stop sale orders against 380 lots of seed which were inadequately labeled in violation of Massachusetts law. These violations were in addition to those issued by the seed laboratory.

Table XIX reports the violations in the labeling of Agricultural seeds- 1971. Of the 74 samples collected by the State Inspectors, 11 were found to be in violation of the Seed Law.

TABLE XIX VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS) 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
AGWAY INC., BUFFALO, N.Y. * Wilson Lumber Co. Concord	71-36 Balbo Rye #PB 9522 Ind., 56#	Found prohibited noxious weed quack grass, approx. 9 per pound. . . . . PROHIBITED S
AGWAY INC., BUFFALO, N.Y. * Wrentham State School, Wrentham	71-504 Avon Wheat New York, #WB9440, 60 lb. Do not use for food, feed or oil purposes, POISON Agway L seed treatment	Proper chemical name or description of treatment is. . . . . .REQUIRED T
CHANDERLAIN SEED CO., INC. BOUND BROOK, N.J.* Wrentham State School, Wrentham	71-344S Pennlawn Fescue 50 lb.	Lot no. is. . . . .REQUIRED T Date of test is. . REQUIRED T Germination % is. .REQUIRED T Purity % is. . . . REQUIRED T Proper kind and variety name Pennlawn red fescue, is. . . . . .REQUIRED T
JENKS-WHITE SEED CO. SALEM, OREGON* J.D.Lyon, Inc., Cambridge	71-363 Kentucky bluegrass, Oregon L57-0-25BG 50 lb.	Purity % pure seed L 98.41, F 96.95 . . . . . DEFICIENT M
LEWIS SEED CO. LOUISVILLE, KY.* Loft's Pedigreed Seed, Arlington	71-173 Kentucky 31 Tall Fescue # 3057 50 lb.	Germination % L 91, F 78. . . . DEFICIENT M

*Considered responsible.

TABLE XIX VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS) 1970-71 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J.* Wrentham State School, Wrentham	71-343S Poa Trivialis 50 lb.	Found annual bluegrass, approx. 544 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seed" is. . . . . MANDATORY S Lot no. is. . . . .REQUIRED T
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J.* Mass. Correctional Inst., Bridgewater	71-806S Penn Lawn Red Fescue, Washington Lot 219, 40 lb.	Purity figures do not add up to 100. . . . . .IN ERROR T
RUDY PATRICK CO. BUFFALO, N.Y. * Zayre Inc., Braintree	71-407 Chewing Fescue 34-222, 100 lb.	Germination % L 90, F 72. . . . DEFICIENT S
RUDY PATRICK CO. BUFFALO, N.Y.* Essex County Coop. Topsfield	71-412 Kentucky 31 Tall Fescue 34-0033 50 lb.	Germination % L 90, F 78. . . . DEFICIENT M
ROBSON QUALITY SEEDS HALL, N.Y.* Farm Bureau Assn. Waltham	71-33 Seed Rye, Ind., #5210, 56 lb.	Variety name is. . REQUIRED T Purity figures do not add up to 100. . . . . .IN ERROR T

*Considered responsible.

Table XX reports the violations in the labeling of mixtures of Agricultural seeds for 1971. Of the 62 samples collected by the State Inspectors, 19 were found to be in violation of the Seed Law.

TABLE XX VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
DRUID HILL PARK SEED CORP. BALTIMORE, MD * Chelsea Ind. Supply Shelsea	71-349 Cool Green Mixture DH-711 5 lb. 2 components	Purity % perennial ryegrass L 8.25, F 27.19	EXCESSIVE S
LAUGHTON'S GARDEN CENTER, CHELMSFORD, MASS.* Laughton's Garden Center, Chelmsford	71-434 Merrimack Valley #1C&MS no. 487 1 lb. 3 components	Purity % Kentucky bluegrass L 56.85, F 45.32	DEFICIENT S
		Inert matter L 3.19, F 8.95. .	EXCESSIVE M
		Other crop seed L 0, F 1.74. . .	EXCESSIVE M
LOFT'S PEDIGREED SEED CO. BOUND BROOK, N.J.* Stop & Shop Inc. Boston	71-354 All Shady Mixture S-5-71 Ore., Canada, Wash. 1 lb. 3 components	Purity % Ky bluegrass L 17, F 11.86. . .	DEFICIENT S
LOFT'S PEDIGREED SEED CO. BOUND BROOK, N.J.* East Falmouth Public Market, East Falmouth	71-854 Prestige Brand Lawn Seed Mixture P3-70 3 lb. 4 components	Found annual bluegrass, approx. 1435 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seeds" is. .	MANDATORY S
		Purity % Ky bluegrass vars. L 54, F 22.34. . .	DEFICIENT S
		Italian Ryegrass 1 29.40, F 36.49	EXCESSIVE M
		Chewings fescue L 9.80, F 37.06...	EXCESSIVE S

*Considered responsible.

TABLE XX VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970-71 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
J.D. LYON INC., CAMBRIDGE, MASS.* J.D.Lyon Inc. Cambridge	71-370 Woodland & Naturalizing Mixture Lot 171 50 lb. 4 components	Listing of Festuca capillata under heading "Coarse Kinds" is. . . . . .REQUIRED M
J.D. LYON INC., CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-372 Manhattan Merion Mixture Lot 371 50 lb. 2 components	Listing of ryegrass under heading "Fine textured grasses" is. . . DISALLOWED M
		Proper kind name, perennial ryegrass, is. . . .REQUIRED T
		Found annual bluegrass, approx. 325 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seeds" is. . MANDATORY S
J.D. LYON INC. CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-373 Merion, High-light, & Manhattan Mix Lot 471 50 lb. 3 components	Listing of ryegrass under heading "Fine textured grasses" is. . . DISALLOWED M
		Proper kind name, perennial ryegrass, is. . . .REQUIRED T
		Purity figures do not add up to 100. . . . . .IN ERROR T
J.D. LYON INC. CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-375 Play Yard Lawnseed Mixture Lot 1371 50 lb. 4 components claimed	Purity % red fescue vars. L 29.10 F 37.10 . . . . . EXCESSIVE M
		Merion Ky. bluegrass L none claimed, F 11.00 . . . . . EXCESSIVE S
		Ky 31 Tall Fescue L 34.30, F 20.05 . . . . . DEFICIENT S

*Considered responsible.

TABLE XX VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970-71 (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
J.D. LYON INC. CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-376 Del-Penn Mixture Lot 971 50 lb. 2 components	Purity % inert matter L .40, F 2.40. . EXCESSIVE	S
J.D. LYON INC. CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-377 Mass. D.P.W. Slope Mixture 2071 50 lb., 5 components	Listing of grass seeds under headings "Fine Textured Grasses" and "Coarse Kinds" is. . . . . .REQUIRED	M
		Kind name "Domestic Ryegrass" is. . . . . .DISALLOWED	T
		Proper kind name, Tall Fescue, is. . . . . .REQUIRED	T
J.D. LYON INC. CAMBRIDGE, MASS. J.D. Lyon Inc. Cambridge	71-378 Lyon Merigreen Mixture Lot 671 50 lb. 3 components	Purity figures do not add up to 100. . . . . IN ERROR	T
J.D. LYON INC. CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-381 Emeralawn Mixture Lot 1271 50 lb. 4 components	Listing of redtop under heading "Fine Textured Grasses" is. . . DISALLOWED	M
J.D. LYON INC. CAMBRIDGE, MASS.* J.D. Lyon Inc. Cambridge	71-382 Lyon Blend Mixture Lot 517 50 lb. 3 components	Found annual bluegrass, approx. 136 per pound. Name and no. per pound under heading "Restricted Noxious Weed Seed" is. . . . . MANDATORY	S
MASS. NURSERYMEN'S ASSN., BOSTON, MASS.* H.V. Lawrence East Falmouth	71-837 Pro-Turf Grass Seed Mixture MNA-PT-10 25 lb. 4 components	Listing of grass seed under headings "Fine Textured grasses" and "Coarse Kinds" is. . . . . .REQUIRED	M
		Germination % red fescue L 90, F 64. . . . DEFICIENT	S

* Considered responsible.

TABLE XX VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1970-71 (continued)

LABELER/SHIPPER Seller/Consignee	Lab no., mixture name lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
MASS. NURSERYMEN'S ASSN., BOSTON, MASS.* H.V. Lawrence East Falmouth	71-838 Shady Turf Lawn Seed Mixture Lot 9-167 1 lb. 4 components	Germination % red fescue L 85, F 55 . . . . . UNFIT FOR SEEDING S
RUDY PATRICK CO. BUFFALO, N.Y.* Zayre Inc. Braintree	71-330 Sprout Grass Seed Mixture OR7103-1 4 lb. 2 components	Purity % Italian ryegrass L 83.30, F 69.16 . . . . . DEFICIENT S Perennial ryegrass L 13.72, F 30.19 . . . . . EXCESSIVE S
STANFORD SEED CO., PLYMOUTH MEETINGS, PA Stanford Seed Co. Oxford	71-440 Contractors Mixture 75G-1 50 lb. 4 components	Order in which components where listed is. . IN ERROR T
STANFORD SEED CO., PLYMOUTH MTG., PA.* Stanford Seed Co., Oxford	71-441 Oxford Park Mixture 75E-1 50 lb. 4 components	Purity figures do not add up to 100. . . . . IN ERROR T
WAGNER BROS. CORP. BROOKLYN, N.Y. * First Nat'l Stores Somerville	71-334 Finast All Bluegrass WB7139 3 lb. 2 components	Purity % Ky. bluegrass L 95, F 90.02. . .DEFICIENT S Restricted noxious weed annual bluegrass L 250 per pound, F approx. 605 per pound. . .EXCESSIVE S

*Considered responsible.

Table XXI reports the violations in the labeling of vegetable seed as determined by laboratory tests 1971. Of the 410 samples collected by the State Seed Inspectors, 17 were found in violation of the Seed Law.

TABLE XXI VIOLATIONS FOUND IN LABELING

VEGETABLE SEEDS 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
ASGROW SEED CAMBRIDGE, N.Y.* L. Richmond Co. Brockton	71-554 Lettuce Great Lakes	Germination % Standard 80, F 62 . . . . . .BELOW STANDARD S
ASGROW SEED CAMBRIDGE, N.Y.* Marvin Grain & Hardware, So. Dartmouth	71-621 Lettuce, Paris Island Cos Run 1	Germination % Standard 80, F 20 . . . . . UNFIT FOR SEEDING S
BRECK'S BOSTON, MASS.* Breck's Boston	71-1154 Salsify, Mammoth Sandwich Island Lot V01990	Germination % Standard 75, F 58 . . . . . BELOW STANDARD M
W. ATLEE BURPEE PHILADELPHIA, PA.* Chace Grain Co. N. Westport	71-563 Beet, Detroit Dark Red 1 lb.	Germination % L 82, Standard 65, F 61 . . . . . BELOW CLAIM M
W. ATLEE BURPEE PHILADELPHIA, PA.* Clark's Hardware BBarnstable	71-756 Lettuce, Salad Bowl	Germination % Standard 80, F 42 . . . . . UNFIT FOR SEEDING S
W. ATLEE BURPEE PHILADELPHIA, PA.* Green Thumb Garden Center Plymouth	71-790 Lettuce, Iceburg	Germination % Standard 80, F 18 . . . . . UNFIT FOR SEEDING S
COMSTOCK-FERRE WETHERSFIELD, CONN.* Essex County Coop. Topsfield	71-88 Cucumber Marketer Lot #416 5 lb. Test 11/70	Germination % L 90, Standard 80, F 74 . . . . . BELOW CLAIM M

*Considered responsible.

TABLE XXI VIOLATIONS FOUND IN LABELING

VEGETABLE SEEDS (continued) 1970-71

LABELER/SHIPPER Seller/Consignee	Lab., no. Kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
COMSTOCK-FERRE WETHERSFIELD, CONN.* Essex County Coop. Topsfield	71-89 Carrot, Imperator Lot # 442 4 lb. Tested 11/70	Germination % L 88, Standard 55, F 73 . . . . . BELOW CLAIM M
COMSTOCK-FERRE WETHERSFIELD, CONN.* Essex County Coop. Topsfield	71-92 Beet, Crosby's Egyptian Lot # 442 ½ lb. Test 10/70	Germination % L 85, Standard 65, F 73 . . . . . BELOW CLAIM M
FREDONIA SEED CO. FREDONIA, N.Y.* Bosnengo Hardware Buzzards Bay	71-732 Radish, Early Scarlet Globe Lot # 737 Seed Strip 100 Seeds	Germination % L 70, Standard 75, F 82 The term "Below Standard" accompanying claim of 70 is. . . . . .REQUIRED T
FREDONIA SEED CO. FREDONIA, N.Y. * Marble Hardware Wareham	71-737 Cucumber, Ohio Pickling	Out of 243 seeds, 10 were found to be obviously treated. Chemical name of treatment and suitable warnings are. . . MANDATORY S
CHAS. C.HART SEED CO. WETHERSFIELD, CONN.* Westboro State Hospital, Westboro	71-225 S Cucumber Marketmore Lot 323-297 ½ lb. Poison Treated Seed Thiram 60% Dieldrin 15%	For seed treated with dieldrin, a representation of a skull & crossbones is. . . . . .REQUIRED S
CHAS.C.HART SEED CO. WETHERSFIELD, CONN.* Westbor State Hospital, Westboro	71-226 S Cabbage-Badger Market Lot 35-346	Germination % L 85, Standard 75, F 70 . . . . . BELOW CLAIM M
CHAS. C. HART SEED CO WETHERSFIELD, CONN.* Westboro State Hospital, Westboro	71-229 S Cabbage Red Acre Lot 35-235	Germination % L 85, Standard 75, F 69 . . . . . BELOW CLAIM M

*Considered responsible.

TABLE XXI VIOLATIONS FOUND IN LABELING

VEGETABLE SEEDS (continued) 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
CHAS.C. HART SEED CO. WETHERSFIELD, CONN.* Westboro State Hospital, Westboro	71-233 S Lettuce- Penn Lake Lot 3- 474 16 oz. Test 11/70	Germination % L 85, Standard 80, F. 20 . . . . . UNFIT FOR SEEDING	S
VAUGHANS SEED CO. CHICAGO, ILL.* Westboro State Hospital, Westboro	71-244 S Onion Early Harvest Lot 8325C 2 lb. Germ. % 72	For this size package, month and year of germination test are. . . . . .REQUIRED	T
WOODRUFF DIV., WOODS SEEDS, WETHERSFIELD, CONN.* Harvey's Inc. Falmouth	71-517 Turnip, Yellow Globe	Germination % Standard 80, F 49 . . . . . UNFIT FOR SEEDING	S

*Considered responsible.

Table XXII reports the violations in the labeling of flower seed as determined by laboratory tests in 1971. Of the 262 samples collected by the State Seed Inspectors, 12 were found in violation of the Seed Law.

TABLE XXII VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
AMERICAN SEED CO. LANCASTER, PA.* Kathy Robertson Upton	71-829 Aster, Powder Puffs, mixed colors	Germination % Standard 50, F 21 . . . . . UNFIT FOR SEEDING S
ASGROW SEED CO. CAMBRIDGE, N.Y.* Walsh's Garden Center, Danvers	71-357 Canterbury Bells - Tinker Bells	Germination % Standard 60, F 5 . . . . . UNFIT FOR SEEDING S
ASGROW SEED CO. CAMBRIDGE, N.Y. Walsh's Garden Center, Danvers	71-262 Mexican Fire Bush- Kochia	Germination % Standard 55, F 14 . . . . . UNFIT FOR SEEDING S
BRECK'S BOSTON, MASS.* Breck's, Boston	71-1119 Summer Poinsettia Lot FO 7971	Approx. 17% found to be Snow-on-the-Mountain. Should be labeled in mixture. . . . . .MISLABELED S
BRECK'S BOSTON, MASS.* Breck's Boston	71-1125 Aster, Super Giant, Mixed Colors #FO 7153	Seed appears to be that of gourds. Packets are . . . . . .MISLABELED S
EXCEL SEED CO. DOWNER'S GROVE, ILL.* Marketside Hdware, Cambridge	71-185 Alyssum, Royal Carpet	Germination % L 65, Standard 60, F 43 . .BELOW STANDARD AND CLAIM M
CHAS. C. HART SEED CO. WETHERSFIELD, CONN.* Glendale Hardware Everett	71-175 Aster, Giant Comet Lot 7	Germination % F 0 . . . . . UNFIT FOR SEEDING S

*Considered responsible.

TABLE XXII VIOLATIONS FOUND IN

LABELING FLOWER SEEDS (continued) 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
NORTHRUP KING & CO. MINNEAPOLIS, MINN.* F.W. Woolworth Boston	71-196 Aster, Early Charm # 322	Germination % F 9 . . . . . UNFIT FOR SEEDING S
NORTHRUP KING & CO. MINNEAPOLIS, MINN.* F.W. Woolworth E. Boston	71-202 Nicotiana, Sensation daylight mixed lot 229	Germination % Standard 65, F 29 . . . . . UNFIT FOR SEEDING S
PAGES SEED CO. GREENE, N.Y. * P.R. Winters Belsmont	71-281 Bachelor's Button	Germination % Standard 60, F 43 . . . . . .BELOW STANDARD M
J.B. RICE JR. SHUSHAN, N.Y.* Wilson Lumber Concord	71-325 Gypsophila, Covent Garden	Germination % Standard 70, F 42 . . . . . UNFIT FOR SEEDING S
SEARS ROEBUCK CHICAGO, ILL.* Sears Roebuck Saugus	71-159 Aster, Early Charm Mix	Germination % F 0 . . . . . UNFIT FOR SEEDING S

*Considered responsible.

Table XXIII reports the violations in the labeling of trees and shrub seeds as determined by laboratory tests 1971. Of the 19 samples collected by the State Seed Inspectors, 18 were found to be in violation of the Seed Law.

Table XXIII VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1970-71

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety yr. col., elev., origin	Violation Labeled L, Found F.	SERIOUS S MINOR M TECHNICAL T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot East Falmouth	71-713 Chamecyparis Lawsoniana Northern Italy ¼ lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot E. Falmouth	71-714 Malus Hupehensis Rosea Barnstable Co., Mass. ¼ lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-715 Pear, Common Domestic Washington State ¼ lb.	Germination % is	REQUIRED T
		Date of test is	REQUIRED T
		Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-716 Pinus Cembra 5100-57-ft. Tyrol Prov. Austria 99 % Pure seed, 75 % Germ. & H.S. Tested Fall/69 ¼ lb.	Germination % F 10	UNFIT FOR SEEDING S
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-718 Pinus Halepensis Northern Italy ¼ lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-719 Prunus, Malaleb 1970 Bulgaria ¼ lb.	Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-720 Prunus Virginiana Melanocarpa 1969 Montana, Judith Basin Co. ¼ lb.	Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
		Germination % F 28	DEFICIENT M

* Considered responsible.

TABLE XXIII VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety yr. col. elev., origin	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-721 Thuja Orientalis no. Italy ¼ lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-722 Acer Pseudo-platanus No. Italy Sound seed 80% 1 lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
		Germination % F 0 . . . . . UNFIT FOR SEEDING	S
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-723 Catalpa Speciosa Lehigh Co., Tenn. ¼ lb.	% pure seed is	REQUIRED T
		Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-724 Cupressus Arizonica Yavapai Co., Ariz. Sound seed 25% ¼ lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
		Germination % F 23 . . . . . DEFICIENT	M
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-725 Fraxinus Excelsior No. Italy Sound Seed 75% 1 lb.	Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-726 Fraxinus Ornus No. Italy 1 lb.	% pure seed is	REQUIRED T
		Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T

* Considered responsible.

TABLE XXIII VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS (continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., Kind, variety, yr. coll. elev., origin	Violation Labeled L, Found F.	SERIOUS S MINOR M TECHNICAL T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-859 Betula Pendula R.C.S. 1971 Belgium ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Germination % F 19	DEFICIENT M
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-860 Gleditsia tricacantha inermis 1969 1000-2000 ft. Gouding Co., Idaho Treated with Sulphuric Acid Germ. % 75 ¼ lb.	% pure seed is	REQUIRED T
		Date of test is	REQUIRED T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-861 Picea glauca (Canadensis) 1970 100-600 ft. Jutland Prov., Denmark Germ. % 75-80 ¼ lb.	% pure seed is	REQUIRED T
		Date of test is	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-862 Rosa multiflora thornless 1970 Japan ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T
F. W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	71-863 Plum myrobalan Bulgaria 1 lb.	% pure seed is	REQUIRED T
		Yr. collected is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % is	REQUIRED T
		Date of test is	REQUIRED T

*Considered responsible.

COMPLIANCE TO THE SEED LAW 1970-71

The following table shows how the major labelers or shippers of seed complied with the Massachusetts Seed Law. The names listed are those of seed companies, wholesale suppliers, prominently advertised divisions of larger firms, or trade names appearing in large letters on the label. These names identify the suppliers considered as primarily responsible for the label.

The table shows, for each supplier, the number of samples collected for each kind group and the number in each group found to be in compliance or not in compliance with the Seed Law. The number of serious, minor, and technical violation counts are also shown in the last three columns.

TABLE XXIV COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1970-71

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	Complied Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
AGWAY, INC.	Agric	11	9	2	1	0	1
SYRACUSE, N.Y.	Mix	2	2	0	0	0	0
	Veg	28	28	0	0	0	0
	Fl	19	19	0	0	0	0
AMERICAN SEED CO.	Veg	8	8	0	0	0	0
LANCASTER, PA.	Fl	9	8	1	1	0	0
AMERICAN HARDWARE BUTLER, PA.	Mix	1	1	0	0	0	0
ASGROW SEED CO.	Mix	1	1	0	0	0	0
(ASGROW-MANDEVILLE)	Fl	14	12	2	2	0	0
CAMBRIDGE, N.Y.	Veg	22	2	2	2	0	0
BRECKS OF BOSTON	Veg	29	28	1	0	1	0
BOSTON, MASS.	Fl	39	37	2	2	0	0
W. ATLEE BURPEE CO.	Veg	21	18	3	2	1	0
PHILADELPHIA, PA	Fl	18	18	0	0	0	0
CHANDERLAIN SEED CO. BOUND BROOK, N.J.	Agric	2	1	1	0	0	5
COMSTOCK FERRE & CO.	Veg	42	39	3	0	3	0
WETHERSFIELD, CONN.	Fl	10	10	0	0	0	0

TABLE XXIV COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1970-71

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	Complied Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
COVER LAWN SEED CO. BALTIMORE, MD	Mix	1	1	0	0	0	0
CRAWFORD GARDEN SUPPLIES PROVIDENCE, R.I.	Mix	2	2	0	0	0	0
CROSSMAN SEED CO. EAST ROCHESTER, N.Y.	Agric	1	1	0	0	0	0
	Veg	30	30	0	0	0	0
	Fl	13	13	0	0	0	0
GEORGE A. DAVIS, INC. CHICAGO, ILLINOIS	Mix	2	2	0	0	0	0
DRUID HILL PARK SEED CORP. BALTIMORE, MD.	Mix	1	0	1	1	0	0
ELANCO PRODUCTS INDIANAPOLIS, IND.	Mix	1	1	0	0	0	0
A. ERTAG INC. JERSEY CITY, N.J.	Mix	2	2	0	0	0	0
EXCEL SEED CO. (DIV. OF VAUGHAN'S) DOWNERS GROVE ILL	Fl	10	9	1	0	1	0
FARM BUREAU ASSOC. WALTHAM, MASS.	Agric	1	1	0	0	0	0
	Mix	2	2	0	0	0	0
FERRY-MORSE SEED CO. FULTON, N.Y.	Veg	19	19	0	0	0	0
	Fl	19	19	0	0	0	0
FREDONIA SEED CO. FREDONIA, N.Y.	Veg	31	29	2	1	0	1
	Fl	14	14	0	0	0	0
FOREST SEED CO. ROCHESTER, N.Y.	Fl	1	1	0	0	0	0
GARDEN TOOLHOUSE WELLESLEY, MASS.	Mix	1	1	0	0	0	0

TABLE XXIV COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1970-71

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	Complied Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
W. R. GRACE & CO. BUFFALO, N.Y.	Agric	1	1	0	0	0	0
GREAT WESTERN SEED ALBANY, OREGON	Agric	2	2	0	0	0	0
	Mix	1	1	0	0	0	0
JOSEPH HARRIS & CO. ROCHESTER, N.Y.	Veg	11	11	0	0	0	0
CHAS. C. HART SEED CO. WETHERSFIELD, CONN.	Veg	62	58	4	2	2	0
	Fl	19	18	1	1	0	0
JACKLIN SEED CO., DISHMAN, WASH.	Agric	1	1	0	0	0	0
	Mix	1	1	0	0	0	0
JENKS-WHITE SEED CO SALEM, OREGON	Agric	9	8	1	0	1	0
LAUGHTON'S GARDEN CTRE CHELMSFORD, MASS.	Mix	1	0	1	1	2	0
MICHAEL LEONARD INC. GRANT PARK, ILL	Agric	1	1	0	0	0	0
LEWIS SEED CO. LOUISVILLE, KY	Agric	1	0	1	0	1	0
LOFT'S PEDIGREED SEED CO. BOUND BROOK, N.J.	Agric	9	7	2	1	0	2
	Mix	8	6	2	4	1	0
JOHN D. LYON, INC. CAMBRIDGE, MASS.	Mix	13	4	9	5	6	6
McLAUGHTON'S SEEDS DISHMAN, WASH.	Fl	3	3	0	0	0	0
MASS. NURSERYMEN BOSTON, MASS.	Mix	3	1	2	2	1	0
NORTHRUP KING & CO. MINNEAPOLIS, MINN	Veg	44	44	0	0	0	0
	Fl	13	11	2	2	0	0

TABLE XXIV COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1970-71

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	Complied Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
OLD FOX AGRIC. SALES PROVIDENCE, R.I.	Agric	3	3	0	0	0	0
PAGE SEED CO. GREENE, N.Y.	Veg	17	17	0	0	0	0
	Fl	8	7	1	0	1	0
RUDY PATRICK CO. BUFFALO, N.Y.	Agric	12	10	2	1	1	0
	Mix	3	2	1	2	0	0
PAYNE BROS SEED CO. GALLATIN, TENN	Mix	1	1	0	0	0	0
RANCY SEED CO. MANKATO, MINN	Agric	1	1	0	0	0	0
J.B. RICE JR. INC. SHUSHAN, N.Y.	Veg	7	7	0	0	0	0
	Fl	12	11	1	1	0	0
ROBSON QUALITY SEEDS HALL, N.Y.	Agric	3	2	1	0	0	2
	Fl	10	10	0	0	0	0
WM. SCARLETT & CO. BALTIMORE, MD.	Agric	3	3	0	0	0	0
	Mix	1	1	0	0	0	0
F.W. SCHUMACHER SANDWICH, MA	Trees	19	1	18	2	3	63
O.M.SCOTT & SONS MARYSVILLE, OHIO	Mix	1	1	0	0	0	0
SEARS ROEBUCK & CO. CHICAGO, ILL.	Veg	8	8	0	0	0	0
	Fl	10	9	1	1	0	0
STANFORD SEED CO. BUFFALO, N.Y. & PLYMOUTH MTG., PA	Agric	12	12	0	0	0	0
	Mix	4	2	2	0	0	2
TURF RESEARCH INC. GRANT PARK, ILL	Mix	1	1	0	0	0	0
VAUGHAN'S SEED CO. BOUND BROOK, N.J. & DOWNER'S GROVE, ILL.	Mix	1	1	0	0	0	0
	Veg	7	6	1	0	0	0
	Fl	9	9	0	0	0	0

TABLE XXIV COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1970-71

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	Complied Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
WAGNER BROS. CORP. BROOKLYN, N.Y.	Mix	4	3	1	2	0	0
WESTERN FARMER'S ASSN SEATTLE, WASH	Agric	1	1	0	0	0	0
WOODRUFF'S DIVISION (WOOD SEED CO.) WETHERSFIELD, CONN.	Veg	24	23	1	1	0	0
	Fl	12	12	0	0	0	0
S.P. WOODRUFF & SONS WETHERSFIELD, CONN.	Mix	1	1	0	0	0	0

ANALYSIS OF SEED LAW VIOLATIONS

The following table shows the analysis of the points of violation found in the labeling of seed for the 1971 season.

TABLE XXV ANALYSIS OF SEED LAW VIOLATIONS 1971

Official Seed Samples	Agric Single	Agric Mix	Veg Seeds	Flower Seeds	Tree/ Shrub	Total
Number of samples collected	74	62	410	262	19	827
Number of samples in violation	11	19	17	12	18	77
% samples in violation	14.9%	30.6%	4.1%	4.6%	4.6%	9.3%
Number of violation counts	16	35	17	12	68	148
Analysis of the 148 counts						
SERIOUS violations, found:						
Purity - wide disparity	2	15	0	0	0	17
Germination - wide deficiency	1	2	6	8	2	19
False or misleading statement	0	0	0	2	0	2
Treatment violations	0	0	2	0	0	2
Total SERIOUS	3	17	8	10	2	40
MINOR violations, found:						
Purity - disparity	1	4	0	0	0	5
Germination - deficiency	2	0	7	2	3	14
Fine/coarse unsuitable	0	6	0	0	0	6
Total MINOR	3	10	7	2	3	25
TECHNICAL violations, found:						
Kind/variety name improper	2	4	0	0	0	6
Omissions	5	0	2	0	63	70
Mistakes - adding, etc.	2	4	0	0	0	6
Inadequacies-descriptions,etc.	1	0	0	0	0	1
Total TECHNICAL	10	8	2	0	63	83

SUMMARY

The results of the official investigations for the inspection year 1971 revealed 77 or 9.3% of the official samples collected to be mislabeled in at least one point of the Massachusetts Seed Law. There were 148 violation counts, of which 40 were serious, 25 were minor, and 83 were technical. The analysis in Table XXV shows that the serious violations were mainly due to purity discrepancies, including weed seed, in agricultural seeds (both mixtures and single kinds) and to poor germination in samples of all classes. More than half of the minor violations were deficiencies in germination. The other minor violations were mainly purity discrepancies or improper texture designations in mixtures of agricultural seeds. The technical violations involved labeling errors in all classes except flowers. However, the great majority of these violations were due to the omission of label data for tree and shrub seeds.

SEED LABORATORY REPORT NO. 45
for 1972

by the Seed Laboratory Staff of the
Feed, Seed, Fertilizer Division

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

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TABLE XXVI SEED SAMPLES FOR THE INSPECTION YEAR 1971-1972

Kind of Seed Samples	No. Red'd	Number of Analyses Scheduled			
		Germi nation	Purity	Noxious Weed	Other*
Official Samples					
Agricultural	92	92	92	92	19
Mixtures (199 components)	82	195	82	82	52
Vegetables and herbs	422	422	0	0	0
Flowers (4 mix, 2 roll outs)	352	386	0	0	0
Trees and shrubs	12	12	0	0	0
Total Official	960	1107	174	174	71
Service and Experimental					
Agricultural	106	100	40	29	2
Mixtures (64 components)	21	61	9	4	0
Vegetables and herbs	303	302	0	0	4
Flowers (2 mixtures)	76	80	0	0	0
Trees and shrubs	11	11	0	0	0
Other (weeds & unidentified)	3	0	0	0	3
Total Service & Experimental	520	554	49	33	9
Total of all Samples	1480	1661	223	207	80
Total Tests Scheduled		2171			

*Includes fluorescence, phenol reaction, tetrazolium, cleaning, identification, and other research tests.

TOBACCO SEED SERVICE 1972

The Seed Laboratory cleaned one lot of tobacco seed with gross weight of 2.57 pounds and net weight after cleaning of 2.17 pounds. This lot and two other samples of seed were tested for germination for tobacco growers in the Commonwealth.

SEED INSPECTORS' WORK 1972

In addition to the 960 official samples collected, the seed inspectors issued 69 stop sale orders against 300 other lots of seed which were obviously inadequately labeled and in violation of the Massachusetts Seed Law.

The following table reports the violation in the labeling of Agricultural seeds for 1972. Of the 92 samples collected by the state inspectors, 9 were found to be in violation of the Seed Law.

TABLE XXVII VIOLATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS) 1972

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
AGWAY INC. SYRACUSE, N.Y.* Wrentham State School, Wrentham	72-15S Seed Rye N00169	Name of variety or "variety unknown" is. . .	REQUIRED T
AGWAY INC. SYRACUSE N.Y. * Agway, Inc. Concord	72-16 Wheat, variety not stated. Poison treated. Do not use for food, feed, or oil purposes. Treated with a mercurial compound (Agway L) WB1503	Name of variety or "variety unknown" is. . .	REQUIRED T
CHANDERLIN SEED CO. (DIV. OF LOFT'S) BOUND BROOK, N.J.* Northampton State Hospital, Northampton	72-1418S Kentucky bluegrass (50 lbs.)	Lot no. is % pure seed and other components % germination is Date of test is	REQUIRED T REQUIRED T REQUIRED T REQUIRED T
GREAT WESTERN SEED CO. ALBANY, OREGON* Loft's Pedigreed Seed Co., Arlington	72-74 Perennial ryegrass #506N	Listing annual bluegrass under heading "Restricted Noxious Weed Seeds" is	REQUIRED M
GREAT WESTERN SEED CO. ALBANY, OREGON* Loft's Pedigreed Seed Co., Arlington	72-75 Manhattan ryegrass B6-135C	Proper kind name "Perennial ryegrass" is. . .	REQUIRED T

*Considered responsible.

TABLE XXVII VIOLATIONS FOUND IN LABELING OF AGRICULTURAL

SEEDS (SINGLE KINDS) 1972 (continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety lot no., description	Violation SERIOUS S Labeled L, Found F MINOR M TECHNICAL T
RUDY PATRICK CO., BUFFALO, N.Y.* Rudy Patrick Co. Holyoke	72-1415 Creeping red fescue 34-4101	Germination % L 85, F 58. . . DEFICIENT S
RUDY PATRICK CO. BUFFALO, N.Y. Rudy Patrick Co. Holyoke	72-1420 Redtop 41-420	Purity % weed seed L 84, F 1.82 Sale of seed containing more than 1 % total weed seed is. . . . . ILLEGAL S
RUDY PATRICK CO. BUFFALO, N.Y.* Essex County Coop, Assn., Topsfield	72-1857 Chewings fescue 34-222	Germination % L 75, F 44 . . . . UNFIT FOR SEEDING S
STANFORD SEED CO. OXFORD, MASS.* Stanford Seed. Co. Oxford, MA	72-1836 Pennlawn red fescue CF 752	Found Galium, approx. 165 per lb. Name and no. per lb. under heading "Restricted Noxious Weed Seeds" is . . . . . MANDATORY S

*Considered responsible.

The following table reports the violation in the labeling of mixtures of agricultural seeds for 1972. Of the 82 samples collected by the State Inspectors, 20 were found to be in violation of the Seed Law.

TABLE XXVIII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1972

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
CLAPPER SEED & GARDEN W. NEWTON, MASS.* Clapper Seed & Garden W. Newton	72-439 Shady Lawn Mixture G 315 Six components	% germination for red top is.	REQUIRED T
CRAWFORD GARDEN SUPPLIES PROVIDENCE, R.I. * Schwartz & Sons Fall River	72-754 U.R.I. # 2 Mixed Grass Seeds 3013 Four components	Date of test and lot number are.	MISPLACED T
GEORGE A DAVIS CHICAGO, ILL.* Turnstyle Quincy	72-442 Shady Super-fine Mixture RS 3784 Four components (Collected 3/30/72)	Germination % Ky. bluegrass L. 75, F 61. . .	DEFICIENT M
GEORGE A DAVIS CHICAGO, ILL.* Turnstyle Lawrence	72-1821 Shady Super-fine Mixture RS 3784 Four Components (Collected 4/24/72)	Germination % Ky. bluegrass L 75, F 57. . .	DEFICIENT M
FARM BUREAU ASSN. WALTHAM, MASS.* Farm Bureau Assn. Greenfield	72-1403 Mass Plot Mix SP MP 279 Five components	Listing of grass seeds under headings "Fine Textured Grasses" and "Coarse Kinds" is.	REQUIRED M
		Purity % Other crop seed L 33, F 1.29. .	EXCESSIVE S
FARM BUREAU ASSN. WALTHAM, MASS.* Farm Bureau Assn. Greenfield	72-1408 Universal Grass Seed UG 274 Four components	Purity figures do not add up to 100. . . .	IN ERROR T

* Considered responsible.

TABLE XXVIII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1972 (continued)

LABELER/SHIPPER Seller/consignee	Lab. no., mixture name, lot no., description	Violation SERIOUS S Labeled L, Found F MINOR M TECHNICAL T
FREDONIA SEED CO. FREDONIA, N.Y.* Five Season's Hdwr., Chelmsford	72-187 Veltex Mixture 7281 Four components	Listing of annual bluegrass under heading "Restricted Noxious Weed Seeds" is. . . . . .REQUIRED M "Veltex" implies a fine-textured turf, whereas the analysis declares 72.5% coarse kinds MISLEADING S REPEATED VIOLATION
INDEPENDENCE HALL BALTIMORE, MARYLAND* Sherman Hdwr. & Paint Somerville*	72-13 Hall Mall Mixture SHM69 Three components	Listing of annual bluegrass under heading "Restricted Noxious Weed Seeds" is. . . . . .REQUIRED M
KERR MCGEE CHEM CORP. PORTLAND, CONN.* Hadley Garden Center Hadley, Mass.	72-1428 Hadley Garden Center Special Seed Mixture # 791 Lot AKL 3316 Five Components	Purity % Ky. bluegrass L 39.94, F 47.72 . . . . . EXCESSIVE S Festuca rubra vars. L 52.37, F 40.24DEFICIENT S Redtop L 6.62, F 9.31 . . . . . EXCESSIVE S Inert matter L .61, F 2.40 . . . . . EXCESSIVE S
KERR MCGEE CHEM CORP. PORTLAND,CONN.* Hadley Garden Center Hadley	72-1429 Custom Shady Lawn Seed Mixture AKL 3302 Four components	Purity figures do not add up to 100. . . . IN ERROR T Germination % poa trivialis L 73, F 1 UNFIT FOR SEEDING S Found annual bluegrass, approx. 510 per lb. Name and no. per lb. under heading "Restricted Noxious Weed Seeds" is . . . . . MANDATORY S

*Considered responsible.

TABLE XXVIII VIOLATIONS FOUND IN LABELING MIXTURES OF AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1972 (continued)

LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J.* Loft's Pedigreed Seed Arlington	72-474 B Front Lawn Mixture FL 1 72 Four components	Purity % inert matter L 9.95, F 14.15 . . . . . EXCESSIVE M
J.D. LYON CAMBRIDGE, MASS.* J.D. Lyon Cambridge	72-496 Deep Shade or Woodland Mixture 772 Three components	Germination % bentgrasses L 85, F 67. . . DEFICIENT M
J.D. LYON CAMBRIDGE, MASS.* J.D. Lyon Cambridge	72-498 Merion Manhattan Ryegrass Mixture 572 Three components	Mixture name is.CONFUSING M Listing of Manhattan perennial ryegrass as "Fine Textured Grass" is. . . DISALLOWED M
J.D. LYON CAMBRIDGE, MASS.* J.D. Lyon Cambridge	72-500 Manhattan Merion Mixture 372 two components	Proper kind name, Manhattan perennial ryegrass, is . . . . . .REQUIRED T
J.D. LYON CAMBRIDGE, MASS.* J.D. Lyon Cambridge	72-1802 Woodland Naturalizing Mixture 172 Four components	Listing of festuca capillata under heading "Fine Textured Grasses" is. .DISALLOWED M
J.D. LYON CAMBRIDGE, MASS.* J.D. Lyon Cambridge	72-1806 Play Yard Mixture 1472 Four components	Proper kind names are . . . . . REQUIRED T
WM. SCARLETT CO. BALTIMORE, MD.* MDC Water Div. Framingham	72-1810 Special Lawn Seed Mixture 11610 Four components	Listing of grass seed under headings "Fine Textured" and "Coarse Kinds" is . . . . . .REQUIRED M

*Considered responsible.

TABLE XXVIII VIOLATIONS FOUND IN LABELING MIXTURES OF

AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1972 (continued)

LABELLER/SHIPPER Seller/consignee	Lab no., mixture name lot no., description	Violation Labeld L, Found F SERIOUS S MINOR M TECHNICAL T
SEABOARD SUPPLY CO. BRISTOL, ILL.* A&P Food Store Mattaposet *	72-821 A&P Premium Lawn Seed Mixture 7027 Four components	Same Box (relabeled) has been offered for 4 sucessive years with claims as to quality "premium....high in ..... germination" which are . . . . . MISLEADING S Germination % Ky. bluegrass L 85, F 73. . . .DEFICIENT M Merion Ky. bluegrass L 80, F 63. . . .DEFICIENT S Festuca rubra vars. L 90, F 58. . . .DEFICIENT S
TURF RESEARCH INC. GRANT PARK, ILL* S.S. Kresge Co. Braintree	72-447 Cover Quick Mixture 2061 Three components	Found annual bluegrass, approx 36 per lb. Name and no. per lb. under heading "Restricted Noxious Weed Seeds" is. . . . . .MANDATORY S
VAUGHAN'S SEED CO. DOWNER'S GROVE, ILL* Pinewood Gardens N. Reading	72-383 Sunny Lawn Mixture # 6007 Four components	Purity figures do not add up to 100. . . . . IN ERROR T Germination % red fescue L 85, F 67. . . .DEFICIENT S

*Considered responsible.

The following table reports the violations in the labeling of vegetable seed as determined by laboratory tests for 1972. Of the 422 samples collected by the State Seed Inspectors, 11 were found to be in violation of the Seed Law.

TABLE XXIX VIOLATIONS FOUND IN

LABELING VEGETABLE SEEDS 1972

LABELER/SHIPPER Seller/consignee	Lab no., kind, variety, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
JOSEPH BRECK & SONS BOSTON, MASS.* Joseph Breck & Sons Boston	72-1111 Caraway	Germination % Standard 55, F 0 . . . . . .UNFIT FOR SEEDING	S
JOSEPH BRECK & SONS BOSTON, MASS.* Joseph Breck & Sons Boston	72-1142 Cress, Upland	Germination % Standard 60, F 47 . . . . . BELOW STANDARD	M
W. ATLEE BURPEE CO. PHILADELPHIA, PA * House & Garden Shop Osterville	72-538 Pepper California Wonder (no lot #)	Germination % Standard 55, F 1 UNFIT FOR SEEDING	S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bradford's Hardware Hyannis	72-680 Tomato Beefsteak	Germination % Standard 75, F 42 . . . . . .UNFIT FOR SEEDING	S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Clarks Hardware Barnstable	72-682 Lettuce Iceburg	Germination % Standard 80, F 1 . . . . . .UNFIT FOR SEEDING	S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Clarks Hardware Barnstable	72-683 Tomato Red Cherry	Germination % Standard 75, F 1 . . . . . .UNFIT FOR SEEDING	S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Allard Nurseries E. Brewster	72-787 Pepper California Wonder #6081	Germination % Standard 55, F 0 . . . . . .UNFIT FOR SEEDING	S

*Considered responsible.

TABLE XXIX VIOLATIONS FOUND IN

LABELING VEGETABLE SEEDS 1972 (continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
CROSMAN SEED CORP. ROCHESTER, N.Y.* Kresge New Bedford	72-700 Asparagus Mary Washington	Germination % Standard 70, F 56 . . . . . BELOW STANDARD M
CHAS. C. HART SEEDS WETHERSFIELD, CONN.* Eastman's Hardware Falmouth	72-518 Pepper WorldBeater	Germination % Standard 55, F 0 . . . . .UNFIT FOR SEEDING S
VESEY'S SEED LTD. YORK, PRINCE EDWARD ISLAND, CANADA* Westboro Hospital Westboro	72-411 S Carrot Chantenay Red Cored	For this sized packet, Lot number is. . REQUIRED T For this sized packet, Month of test is . . . . . REQUIRED T Germination % L 91 Standard 55, F 80 . . . . . .BELOW CLAIM M
VESEY'S SEEDS LTD. YORK, PRINCE EDWARD ISLAND, CANADA * Westboro Hospital Westboro	72-412 S Turnip purple top Swede Treated with Semesan (POISON)	For this sized packet, Lot number is. . REQUIRED T For this sized packet, month of test is . . . .REQUIRED T Germination % is..REQUIRED T Kind name "turnip" for "rutabaga" is..DISALLOWED T

*Considered responsible.

The following reports the violations in the labeling of flower seed as determined by laboratory tests for 1972. Of the 352 samples collected by the State Inspectors, 25 were found to be in violation of the Seed Law.

TABLE XXX VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1972

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
ASGROW SEED CO. CAMBRIDGE, N.Y.* Thomson's Garden Ctre. Danvers	72-165 Marigold Sparky 102863 Run # 4	Germination % Standard 65, F 38 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bruckmann Inc., Lawrence	72-88 Ageratum Blue Ball Lot 4007	Germination % Standard 60, F 0 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bruckmann Inc., Lawrence	72-92 Celosia plumosa lot 4061	Germination % Standard 65, F 31 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bruckmann Inc., Lawrence	72-94 Marigold Brownie Scout Lot #3094	Germination % Standard 65, F 1 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bruckmann Inc., Lawrence	72-95 Marigold Dwarf French $ 4145	Germination % Standard 65, F 2 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bruckmann Inc., Lawrence	72-96 Phlox Twinkle 4418	Germination % Standard 55, F 3 . . . . UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Bruckmann Inc., Lawrence	72-97 Portulaca Magic Carpet 4436	Germination % Standard 55, F 25 . . . . UNFIT FOR SEEDING S

*Considered responsible.

TABLE XXX VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1972 (continued)

LABELER/SHIPPER Seller/Consignee	Lab no., kind, variety Lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hdwre. Burlington	72-335 Ageratum Blue Ball # 4007	Germination % Standard 60, F 0 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hardware Burlington	72-337 Carnation Marguerite #4062	Germination % Standard 60, F 13 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hardware Burlington	72-338 California Poppies Monarch #4239	Germination % Standard 60, F 39 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hardware Burlington	72-340 Marigold Petite Spry #3623	Germination % Standard 65, F 1 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hardware Burlington	72-342 Petunias Bedding #4191	Germination % Standard 45, F 5 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hardware Burlington	72-343 Poppy Shirley #4189	Germination % Standard 60, F 0 UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* Burlington Hardware Burlington	72-344 Portulaca (moss rose) #4194	Germination % Standard 55, F 23 . . . . .UNFIT FOR SEEDING S
W. ATLEE BURPEE CO. PHILADELPHIA, PA* J.D. Lyon Inc., Cambridge	72-1884 Ageratum Blue Ball # 4007 (Note: Supposed to be a new lot)	Germination % Standard 60, F 0 . . . . .UNFIT FOR SEEDING S

*Considered responsible.

TABLE XXX VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1972 (continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, lot no., description	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
COMSTOCK FERRE CO. WETHERSFIELD, CONN.* Spag's Supply Co. Shrewsbury	72-40 Petunia Colorama Mixed Colors	Germination % Standard 45, F 4 . . . .UNFIT FOR SEEDING	S
COMSTOCK FERRE CO. WETHERSFIELD, CONN.* Essex County Coop. Assn. Topsfield	72-150 Bachelor Buttons Double Blue	Germination % Standard 60, F 40 . . . . . BELOW STANDARD	M
COMSTOCK FERRE CO. WETHERSFIELD, CONN.* Essex County Coop. Assn. Topsfield	72-152 Nasturtium Golden Gleam	Germination % Standard 60, F 25 . . . . .UNFIT FOR SEEDING	S
FERRY MORSE SEED CO. FULTON, KY.* Lexington Gardens Lexington	72-49 Annual Flower Mixture 87A (note; 9 major components were tested)	Germination % Alyssum Standard 60, F 42 . . . . . BELOW STANDARD	M
		Germination % Aster Standard 50, F 5 . . . . .UNFIT FOR SEEDING	S
FERRY MORSE SEED CO. FULTON, KY.* Lexington Gardens Lexington	72-70 Periwinkle Mixed Vinca 239 C	Germination % Standard 60, F 43 . . . . . BELOW STANDARD	M
FREDONIA SEED CO. FREDONIA, N.Y.* Laughton's Garden Ctr. N. Chelmsford	72-189 Aster Improved Crego F 104-1	Germination % Standard 55, F 1 . . . . .UNFIT FOR SEEDING	S
CHAS. C. HART SEED CO. WETHERSFIELD, CONN.* Bruckmann Inc., Lawrence	72-83 Foxglove Digitalis # 37	Germination % Standard 60, F 0 . . . . .UNFIT FOR SEEDING	S

*Considered responsible.

TABLE XXX VIOLATIONS FOUND IN

LABELING FLOWER SEEDS 1972 (continued)

LABELER/SHIPPER Seller/consignee	Lab no., kind, variety, lot no., description	Violation Labeled L, Found F — SERIOUS S, MINOR M, TECHNICAL T
CHAS. C. HART SEED CO. WETHERSFIELD, CONN.* Ann& Hope Danvers	72-296 Larkspur Giant Imperial # 42	Germination % Standard 60, F 22 . . . . .UNFIT FOR SEEDING S
CHAS. C. HART SEED CO. WETHERSFIELD, CONN.* Ann & Hope Danvers	72-300 Petunia Hybrida # 68	Germination % Standard 45, F 0 . . . . UNFIT FOR SEEDING S
VAUGHAN'S SEED CO. DOWNERS GROVE, ILL.* Wilson Lumber Co. Concord	72-177 Cleome Pink Queen	Germination % Standard 65, F 47 . . . . . BELOW STANDARD M

*Considered responsible.

The following table reports the violations in the labeling of tree and shrub seeds as determined by laboratory tests for 1972. Of the 12 samples collected by the State Seed Inspectors, 12 were found to be in violation of the Seed Law.

TABLE XXXI VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1972

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, yr. col., elev., origin	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-804 Alnus glutinosa 1970 crop Belgium ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot E. Falmouth	72-805 Cercia Siliquastrum 1970 crop Italy ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-806 Clematis Viticella 1971 Italy ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T
		Germination % F 0	
		. . . . UNFIT FOR SEEDING	S
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-807 Colutea arborescens ¼ lb.	% pure seed is	REQUIRED T
		Yr. collected is	REQUIRED T
		Locality and elev. where grown	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-808 Cornus mas 1970 Austria 900 ft. ¼ lb.	% pure seed is	REQUIRED T
		Germination % F 4	
		. . . . UNFIT FOR SEEDING	S
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-809 Cupressus sempervirens Horisontalis 1969 Italy ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-810 Diospyros Lotus (catalogued as Diospyrus lotus) 1971 Japan ¼ lb.	% pure seed is	REQUIRED T
		Elev. where grown	REQUIRED T

* Considered responsible.

TABLE XXXI VIOLATIONS FOUND IN

LABELING TREE AND SHRUB SEEDS 1972 (continued)

LABELER/SHIPPER Seller/consignee	Lab. no., kind, variety, yr. col., elev., origin	Violation Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot E. Falmouth	72-811 Koelreuteria paniculata (Golden Rain Tree) 1972 Italy	% pure seed is Elev. where grown	REQUIRED T REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-812 Mespilus Germanica 1970 Italy ¼ lb.	% pure seed is Elev. where grown Germination % F 0 . . . . UNFIT FOR SEEDING	REQUIRED T REQUIRED T S
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot E. Falmouth	72-813 Prunus persica atropurpurea 1969 ¼ lb.	% pure seed is Locality and elev. where grown is % germination is Date of test is Germination % F 0 UNFIT FOR SEEDING	REQUIRED T REQUIRED T REQUIRED T REQUIRED T S
F.W. SCHUMACHER SANDWICH, MASS.* R. S. Tourtellot E. Falmouth	72-814 Taxodium distichum ¼ lb.	% pure seed is Yr. collected is Locality & elev. where grown is	REQUIRED T REQUIRED T REQUIRED T
F.W. SCHUMACHER SANDWICH, MASS.* R.S. Tourtellot E. Falmouth	72-815 Catalpa bignonioides 1971 Italy ¼ lb.	% pure seed is Elev. where grown % germination is Date of test is	REQUIRED T REQUIRED T REQUIRED T REQUIRED T

*Considered responsible.

COMPLIANCE TO THE SEED LAW 1972

The following table shows how the major labelers or shippers of seed complied with the Massachusetts Seed Law. The names listed are those of seed companies, wholesale suppliers, prominently advertised divisions of larger firms, or trade names appearing in large letters on the label. These names identify the suppliers which are considered primarily responsible for the label.

The table shows, for each supplier, the number of samples collected for each kind group and the number in each group found to be in compliance or not in compliance with the Seed Law. The number of serious, minor, and technical violation counts are also shown in the last three columns.

TABLE XXXII COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1972

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
AGWAY INC., SYRACUSE N.Y.	Agric	17	15	2	0	0	2
	Mix	7	7	0	0	0	0
	Veg	25	25	0	0	0	0
	Fl	21	21	0	0	0	0
ASGROW SEED CO. CAMBRIDGE, N.Y.	Veg	9	9	0	0	0	0
	Fl	30	29	1	1	0	0
ATLANTIC SEED CO. BOUND BROOK, N.J.	Mix	1	1	0	0	0	0
GEORGE T. BALL W. CHICAGO, ILL	Fl	1	1	0	0	0	0
JOSEPH BRECK & SONS, CAMBRIDGE, MASS.	Veg	33	31	2	1	1	0
	Fl	21	21	0	0	0	0
LUTHER BURBANK SEED CO. PHILADELPHIA, PA	Veg	5	5	0	0	0	0
	Fl	5	5	0	0	0	0
W. ATLEE BURPEE CO. PHILADELPHIA, PA.	Veg	31	26	5	5	0	0
	Fl	27	13	14	14	0	0
CHANDERLAIN (DIV. OF LOFT'S BOUND BROOK, N.J.)	Agric	1	0	1	0	0	4

TABLE XXXII

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1972 (continued)

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
CLAPPER'S SEED & GARDEN W. NEWTON, MASS.	Mix	3	2	1	0	0	1
COMSTOCK FERRE & CO. WETHERSFIELD, CONN.	Veg	41	41	0	0	0	0
	Fl	16	13	3	2	1	0
COVENTRY FEED & PET SUPPLY COVENTRY, R.I.	Mix	1	1	0	0	0	0
CRAWFORD GARDEN SUPPLIES PROVIDENCE, R.I.	Mix	3	2	1	0	0	1
CROSSMAN'S SEED CORP. E. ROCHESTER, N.Y.	Fl	22	22	0	0	0	0
	Veg	28	27	1	0	1	0
DARBCO INC. E. PROVIDENCE, R.I.	Mix	1	1	0	0	0	0
GEORGE A. DAVIS CHICAGO, ILL.	Mix	4	2	2	0	2	0
DERBY FEED CO. DERBY, CONN.	Agric	7	7	0	0	0	0
DRUID HILL PARK SEED CO. BALTIMORE, MD	Mix	2	2	0	0	0	0
ROBT. DYE SEED RANCH POMEROY, WASH.	Agric	2	2	0	0	0	0
FARM BUREAU ASSN. WALTHAM, MASS.	Agric	6	6	0	0	0	0
	Mix	3	1	2	1	1	1
FERRY MORSE SEED CO FULTON, KY.	Veg	35	35	0	0	0	0
	Fl	40	38	2	1	2	0
FREDONIA SEED CO. FREDONIA, N.Y.	Mix	1	0	1	1	1	0
	Veg	26	26	0	0	0	0
	Fl	29	28	1	1	0	0

TABLE XXXII

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1972 (continued)

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
GERMAIN'S INC. LOS ANGELES, CALIF	Veg	3	3	0	0	0	0
GREAT WESTERN SEED COMPANY ALBANY, OREGON	Agric	4	2	2	0	1	1
JONATHAN GREEN & SONS, KEARNY, N.Y.	Mix	1	1	0	0	0	0
GRIER'S SEED FARM FREEMONT, OHIO	Agric	1	1	0	0	0	0
JOSEPH HARRIS INC. ROCHESTER, N.Y.	Veg	14	14	0	0	0	0
	Fl	1	1	0	0	0	0
CHAS. C. HART WETHERSFIELD, CONN.	Mix	1	1	0	0	0	0
	Veg	43	42	1	1	0	0
	Fl	28	25	3	3	0	0
INDEPENDENCE HALL BALTIMORE, MD.	Mix	2	1	1	0	1	0
JACQUES SEED CO. PRESCOTT, WISC.	Agric	1	1	0	0	0	0
JENKS-WHITE SALEM, OREGON	Agric	11	11	0	0	0	0
KEN-BRIS FARMS BRISTOL, ILL.	Mix	1	1	0	0	0	0
KERR MCGEE CHEM PORTLAND, CONN.	Mix	2	0	2	6	0	1
LOFT'S PEDIGREED SEED CO. BOUND BROOK, N.J.	Agric	1	1	0	0	0	0
	Mix	17	16	1	0	1	0
J.D. LYON INC. CAMBRIDGE, MASS.	Mix	16	11	5	0	4	2

TABLE XXXII

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1972 (continued)

LABELER, SHIPPER SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Numbers Samples	Number of counts SERIOUS	MINOR	TECHNICAL
McLAUGHLIN'S SEEDS SPOKANE, WASH	Fl	16	16	0	0	0	0
NORTHRUP KING MINNEAPOLIS, MN	Mix	3	3	0	0	0	0
	Veg	25	25	0	0	0	0
	Fl	11	11	0	0	0	0
OLD FOX CHEMICAL CO. PROVIDENCE, R.I,	Agric	9	9	0	0	0	0
	Mix	1	1	0	0	0	0
PAGE SEED CO. GREENE, N.Y.	Veg	17	17	0	0	0	0
	Fl	18	18	0	0	0	0
RUDY PATRICK BUFFALO, N.Y.	Agric	25	22	3	3	0	0
	Mix	3	3	0	0	0	0
	Veg	12	12	0	0	0	0
PLANTATIONS SEED & SUPPLY CO. PROVIDENCE, R.I.	Mix	1	1	0	0	0	0
J.B.RICE JR. SHUSHAN, N.Y.	Veg	22	22	0	0	0	0
	Fl	13	13	0	0	0	0
ROBSON'S QUALITY SEEDS, HALL, N.Y.	Veg	25	25	0	0	0	0
	Fl	19	19	0	0	0	0
WM. SCARLETT CO. BALTIMORE, MD	Mix	1	0	1	0	1	0
F.W. SCHUMACHER SANDWICH, MASS.	Trees	12	0	12	4	0	29
O.M. SCOTT MARYSVILLE, OHIO	Mix	1	1	0	0	0	0
SEABOARD SUPPLY CO. BRISTOL, ILL	Mix	1	0	1	3	1	0
SEARS & ROEBUCK CHICAGO, ILL.	Veg	20	20	0	0	0	0
STANFORD SEED CO. PLYMOUTH MTG., PA	Agric	6	5	1	1	0	0
	Mix	2	2	0	0	0	0

TABLE XXXII

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1972 (continued)

LABELER, SHIPPER, SUPPLIER	Kind group	Tested Number Samples	COMPLIED Number Samples	VIOLATIONS (NOT IN COMPLIANCE) Number Samples	Number of counts SERIOUS	MINOR	TECHNICAL
TURF RESEARCH GRANT PARK, ILL	Mix	2	1	1	1	0	0
UNION WADDING CO. PAWTUCKET, R.I.	Fl	2	2	0	0	0	0
VAUGHAN'S SEED CO. DOWNERS GROVE, ILL	Mix	1	0	1	1	0	1
	Fl	26	25	1	0	1	0
VESEY SEED LTD. YORK, PRINCE EDWARD ISLAND, CANADA	Veg	2	0	2	0	1	6
BRETT YOUNG MANITOBA, CANADA	Agric	1	1	0	0	0	0
YOUTH OPPORTUNITY SALES CLUB BALTIC, CONN.	Veg	6	6	0	0	0	0
	Fl	6	6	0	0	0	0

ANALYSIS OF SEED LAW VIOLATIONS 1972

The following table show the analysis of the points of violation found in the labeling of seed for the 1972 season.

TABLE XXXIII ANALYSIS OF SEED LAW VIOLATIONS 1972

Official Seed Samples	Agric Single	Agric Mix	Veg Seeds	Flower Seeds	Tree/ Shrub	Total
Number of samples collected	92	82	422	352	12	960
Number of samples in violation	9	20	11	25	12	77
% of samples in violation	10.2	24.4%	2.6%	7.1%	100%	8.0%
Number of violation counts	12	32	16	26	33	119
Analysis of the 119 counts						
SERIOUS violations, found:						
Purity - wide disparity(incl.weeds)	3	7	0	0	0	10
Germination - wide deficiency	1	4	7	22	4	38
False or misleading statement	0	2	0	0	0	2
Total SERIOUS	4	13	7	22	4	50
MINOR violations, found:						
Purity - disparity	0	1	0	0	0	1
Germination - deficience	0	4	3	4	0	11
Fine/coarse unsuitable	0	4	0	0	0	4
Information inadequate/unsuitable	1	3	0	0	0	4
Total MINOR	1	12	3	4	0	20
TECHNICAL violations, found:						
Kind/variety name improper	3	2	1	0	0	6
Omissions	4	1	5	0	29	39
Mistakes	0	4	0	0	0	4
Total TECHNICAL	7	7	6	0	29	49

SUMMARY 1972

The results of the official seed investigations for the inspection year 1972 revealed 77 or 8.0% of the 960 official samples collected to be in violation on at least one point of the Massachusetts Seed Law. There were 119 violations counts, of which 50 were serious, 20 were minor, and 49 were technical. The analysis of the preceding table shows that the serious violations were mainly due to mislabeling purity percentages, including presence of restricted noxious weed seeds, in agricultural seeds (both single kinds and mixtures) and to germination failure in all classes. The minor violations also included poor germination in most classes. The other minor violations occured mainly in mixtures of agricultural seeds and were due to carelessness in stating texture type and failure to provide proper headings for restricted noxious weed seeds. The technical violations were mainly due to omission of required data, with a few improper kind or variety names and a few addition errors.

INSPECTION OF COMMERCIAL FEEDSTUFFS 1970

By Feed and Fertilizer Staff -- Report No. 78

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FEED, SEED, FERTILIZER DIVISION

MASSACHUSETTS AGRICULTURAL EXPERIMENT STATION

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Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Acme Evans Inc.	
Acme White Hominy Feed	1
Ajax Dog Food Company	
Ajax Oven Baked Dog Food	1
Agway, Incorporated	
Ajax Fulpail	3
Ajax Milkmaker 16	2
Kasco Dog Food Meal	2
Agway Nu Milkerpels 16-MA	2
Agway Silage booster 20 Pellets	1
Agway Mill Queen 20 Pellets	3
Agway Hi Ener-G 16	2
Agway Super Test Feed	2
Agway Choice	2
Agway Super Fit-N-Fresh	3
Agway Pork Finisher	2
Agway Nu-Cashmaker	2
Agway 40% Mixer	1
Agway Early Market Lamb Pellets	1
Agway 16 Hi-Cal Pellets	1
Agway Super Exchange Dairy-AL	1
Agway Crunchy Dari	2
Agway Milkmore 16	2
Agway Trim	2
Agway Nu Milkerpels 16	2
Agway Strike Fish Feed	1
Agway Country Best Best Feathered Wild Bird Feed	2
Agway Bridgewater 16 Dairy	1
Agway Wheat Middlings	1
Agway Brewers Dried Grains	1
Agway All Mash Grower	1
Agway 36% Supmix	1
Agway 14 Record Fitting	1
Agway 33 1/3% Topper	1
Agway Mill Queen 16 Pellets	1
Agway Milkmaker 16-AL	1
Agway Hard Wheat Bran	1
Big Red Special Rabbit Pellets	1
Agway Pigeon Feed No. 1 General Purpose	1
Agway Exchange Champ-AL	1
Agway Chick Starter	1
Agway Trim-GA	1
Kasco Mini-Chunks Bite Size Dog Food	1
Agway Silage Booster 20 Pellets	1
Agway Coarse Scratch	1
Agway 1600-16 Pellets	1
Big Red Dog Food	1
Big Red Shush Food Pup	1
Big Red Dog Food Meal	1
Big Red Rabbit Food	1
Agway Inc. (Cont)	
Agway Hi Cal Pellets	1
Agway Hominy Feed	1
Agway Crimped Oats w/Molasses	1
Agway Ket-A-Way	1
Agway Respond	2
Agway Rabbit Pellets	1
Agway Bulky	1
Agway Champion -AL	1
Big Red Special Rabbit	1
Agway Silage Booster 20 + Super Test	2
Albers Milling Company	
Albers Calf Manna	5
Albers Suckle	1
Allied Mills Incorporated	
Wayne Ruff'N Redi Complete Horse Feed	5
Full O Pep Wayne Derwood Crunch Horse Feed	1
Alpine Marine Products Inc.	
Fish Protein Concentrate	1
Amburgo Manufacturing Co.	
S.W.P. Mix	1
American Crystal Sugar Company	
Dried Beet Pulp	1
American Cyanamid Company	
Cyrea-45	1
Beacon Milling Company	
Beacon SNE Horse Feed	1
Beacon Complete Brisk Horse Feed	1
Beacon Milk Producer "16"	1
Beacon Egg Producer	1
Beacon Complete Rabbit Pel.	1
Beacon Balancer	1
Beacon Poultry Fitting	1
Beacon Lacto Pels "16"	1
Beacon Buckaroo's Horse Feed	1
Beacon Hi-Ener-G "16" Test	1

Brands Substantially Complying with Guarantees- Cont.

Manufacturer & Brand	Number of Samples Analyzed
Beacon Milling Company (Cont)	
Beacon Complete 14% sow	1
Beacon C & F	1
Beacon "15" Coarse Test Cow .	1
Beacon Egg Mate	1
Bernardston Grain Company	
Horse Feed with Molasses	3
Excel 16% Dairy Ration	2
Starter & Grower	1
Excel Laying Mash	1
Best Feeds & Farm Supplies Inc.	
Vim Pak Chunk Style Dog Food..	1
Chunks of Joy Dog Food	3
Joy Dog Food Meal	1
My Own Muggs Dog food	2
Best Feeds Dog Food	1
Joy Dog Food	1
Blue Ribbon Feed Company	
Economy Pigeon Feed	1
Sp. Flying Pigeon Feed	1
Borden's Grain Company	
Borden's Super Mash	2
Borden's Special Dairy	2
Borden's 14 Fitting	1
Brown Forman Distillers Corp.	
Corn Distillers Dried Sol.....	1
L.H. Burlingame Incorporated	
Master Made Stuble Choice Horse Feed	1
Master Made 16% Show Master Dairy	1
Carnation Company	
Friskies Puppy Food	1
Little Friskies Cat Food	1
Friskies Sauce Cubes	1
Carling Brewing Company	
Carling Brewing Dried Grains ..	1
Central Soya	
Master Mix Stable Choice...	1
Master Mix Rabbit Pellets..	1
Central Flow 49% Solvent Extracted Soybean Meal	2
Central Flow 44% Solvent Extracted Dehulled Soybean Meal	1
Master Mix Dog Food	2
Master Mix Hi-Prod. 14% Dairy	1
Hound Pack	2
Trout Food Pellets	1
Cherry-Taylor Flour Mills Ltd.	
Beaver Wheat Bran	2
Beaver Wheat Shorts	1
The Coca-Cola Company	
Golden Isle Brand Citrus Pulp	2
The Conlon & Donnelly Co.	
C & D Mash Egg	1
CPC International Incorporated	
Best Foods Ground Oat Hulls	1
Best Foods Pulverized White Oats	1
S. Davis Company	
Davis Blue Ribbon with Pop Corn	1
Derby Feed Store	
Special Pigeon Feed	1
Breeder Feed	1
Wild Bird Feed	1
F. Diehl & Sons, Inc.	
Zero Grazing Horse Feed	1
Layer	1
Race Horse Feed	1
Eastman Gelatin Corp.	
Dicalcium Phosphate	1
J.W. Eshelman & Sons	
Red Rose Intermediate Chick Grains	3
Red Rose Pig Starter Pel....	1
Red Rose Pre-Starter Pellets for Pigs	1

Brands Substantially Complying with Guarantees - Cont.

Manufacturer & Brand	Number of Samples Analyzed
J. W. Eshelman & Sons (Cont)	
Lancaster "20" Dairy Feed	2
Red Rose Sow Meal	2
Penny "16" Dairy Feed	1
Red Rose Foal Feed	1
Screened Cracked Corn	1
Red Rose Complete Horse Feed	2
Oats	1
Red Rose Rabbit Pellets	1
Red Rose Classic Horse Feed	2
Red Rose Calf Grower	1
Red Rose Dog Food	1
Red Rose Super Horse Feed	1
Wheat Bran	1
Steamed Flaked Oats	1
Red Rose 14 Test Cow Ration	1
Red Rose Egg Maker	1
Red Rose Complete Laying Mash	1
Red Rose Scratch Grains	1
Essex Co. Coop. Farming Assn.	
S-X 18% Dairy Ration w/Pel	1
S-X 16% Dairy Ration w/Pel	1
S-X 14% Fitting Ration	1
Farm Bureau Association	
Farm Bureau Fitting Ration	2
Farm Bureau Layer Breeder	1
Farm Bureau Rabbit Food Pel	2
Farm Bureau Chalenger Dairy "16"	3
Farm Bureau Dairy 16%	6
Farm Bureau Quality Horse Fare	2
Farm Bureau Valley 16%	2
Farm Bureau Complete Producer Crumbles	3
Farm Bureau Calf Grower	2
Farm Bureau Advancer	2
Farm Bureau Layer Breeder Mash	2
Quality Wild Bird Feed	1
Farm Bureau Turkey Grower	1
Farm Bureau Advancer 16% Pel.	1
Turkey Finisher Med.	2
Farm Bureau Advancer 20% Dairy	1
Farm Bureau Dog Food Chunkies	1
Farm Bureau Quality Milk Replacer	1
Farm Bureau Association (Cont)	
Farm Bureau Ketosis Control Dairy	1
Leader Dairy 16% Pellets	1
Scratch Feed	1
Corn Meal	1
Complete Producer Pellets	2
Farm Bureau Succulent Feed	1
Farm Bureau Dairy 20%	1
Farm Bureau Complete Developer Mash	1
Farm Bureau Pig Starter & Grower	1
Dehulled Solvent Extracted Soybean Meal	1
Fitting Ration	1
Farmers Feed Company	
Bull Brand Brewers Dried Grains	1
Feeds Incorporated	
Redbird FeedsLayer Mash	1
First National Stores, Inc.	
Finest Chunks Moist Tender for Dogs Dog Food	1
Finest Bits Moist Tender for Dogs Dog Food	1
Finest Burgers for Dogs	1
Finest Gravy Style Dog Food.	1
Flory Milling Company	
Flory Horse Feed	1
Brewer's Dried Grains	1
FMC Scratch Feed	1
Wheat	1
Crimped Oats	1
Whole Corn	1
Flory Bonus 16% Dairy	1
Flory Cream Line Dry-N-Fresh.	1
Flory Rabbit Pellets	1
Flory Chick Size Cracked Corn	1
Flory Golden Egg Layer	1
Flory Hog Feed	1
Flory Corn Oats Molasses Grist Mix #5	1
Flory Production 16% Dairy	1
Flory Superior 14% Fitting Ration	2
Flory Test Cow 16	2

Brands Substantially Complying with Guarantees - Cont.

Manufacturer & Brand	Number of Samples Analyzed
Flory Milling Company(Cont)	
Flory Hi Efficiency Poultry Layer	1
Flory Hi Efficiency Poultry Hominy Feed	1
Flory Grow & Egg Complete	1
R. T. French Company	
French's Parakeet Seed	1
French's Canary Bird Seed	1
French's Parakeet Treat	1
French's People Crackers For Dogs	1
French's Doggie Do-Nuts	1
Fruen Milling Company	
Tonka Steamed Rolled Whole Barley	1
Mohawk Steam Crimped Whole Oats	1
Head Start Horse Feed	1
Sure Start 18 Textured Feed 18% Protein	1
Pep Pellets Horse Feed	1
Gaines Food Corporation	
Gaines Bits	1
Gaines Top Choice	1
Gaines Prime Moist Tender Dog Food	1
Gaines Prime Variety Soft Moist Dog Food	1
Gaines Burgers	1
Gaines Biscuits	1
Gaines Gravy Train	1
Gaines Meal Dog Food	1
Golden Gem Growers Inc.	
Golden Gem Sweet Dried Citrus Pulp	1
Grand Union Company	
Grand Union Brand Crunchy Style Dog Food	1
Grand Union Gravy Style Dog Food	1
The Great A&P Tea Company	
A&P Chunks Soft Moist Dog Food	1
A&P Dog Meal	1
Great Star Flour Mills Ltd.	
Great Star Bran	1
Hales & Hunter Company	
Pioneer 16 Textured Dairy	1
Red Comb Egg Mash Crumbles	1
Red Comb Complete Layer	1
Turkey Grower & Finisher Concentrate	1
Hartz Mountain Products Corporation	
Hartz Bonio Improved Gourmet Dog Biscuits	1
Hartz Mountain Liver Flavor Dog Treats	1
Hartz Mountain Hamster Food	1
Hartz Mountain Fish Flavor Cat Treats	1
Hartz Mountain Canary Food	1
Parakeet Treat	1
Cat Yummies	1
Dog Yummies	1
Hoosac Valley Coal & Grain Company	
18% Hoosac Valley Dairy Ration	1
E.C. & W. L. Hopkins Inc.	
Granite State Hi Energy Growing Mash	1
Granite State Rabbit Pellets	1
Granite State 16% Dairy Feed	1
Granite State Complete Mash	1
Granite State Complete Horse Feed	1
Smith's Best of All	1
Illinois Cereal Mills	
Hominy Feed	2
International Milling Company	
Blackhawk Wheat Bran with Ground Wheat Screening	1
International Salt Company	
Sterling Blu Salt	2
Jaquith & Company	
Jaquith Horse Feed	1
I. S. Joseph Company	
Dried Beet Pulp	1

Brands Substantially Complying with Guarantees - Contd.

Manufacturer & Brand	Number of Samples Analyzed
Kane Molasses Laboratories Inc.	
Kane Lass Dehyrated	1
Kellog Company	
Kellog's Dried Brewers Grains	1
Keynes Brothers Incorporated	
Chunk Mark Pure Wheat Bran	1
Knauf & Tesch Company	
Kaytee Flying Pigeon Feed	1
Kaytee Conditioning Pigeon Feed #6	1
Kraft Foods	
Kraco Made from Fresh Whole Whey	1
Kuder Citrus Pulp Company	
Kuder Dried Citrus Pulp	1
Lipman Marine Products Corp.	
Fish Meal Herring	1
Liv-A-Snaps Incorporated	
Char-O-Snaps for Dogs	1
Liv-A-Snaps	1
Lockwood Nutrition Company	
Dried Whole Whey for Animal Feed	1
Special Mix for Creep Feed for Black Angus	1
Mackenzie & Winslow	
Money's Worth High Efficiency Complete Growing	1
Money's Worth High Efficiency Complete Mash	1
Money's Worth Dairy Feed 16%	1
Money's Worth 14% Fitting Rat.	1
Mansfield Feed & Farm Supply Inc.	
Wild Bird Feed	1
Maple Leaf Mills Company	
Rex Wheat Bran	1
Marlboro Milling Company	
Pullet Developer	1
Jas. F. Morse & Company	
Morse's 46% Meat & Bone Meal	1
Morse's 45% Meat & Bone Meal	1
National Biscuit Company	
Wheat Bran	3
Milk Bone Puppy Biscuits	1
Milk Bone Dog Biscuits	1
Milk Bone Flavor Snacks	1
Old Mother Hubbard Dog Food Co.	
Old Mother Hubbard Oven Baked Dog Food	1
Old Mother Hubbard Laboratory Research Poultry Starter	1
Old Mother Hubbard Oven Baked Primate Diet	1
Old Mother Hubbard Oven Baked Dog Food Kibbled Mash	2
Palmetto Oil Company	
41% Protein Cottonseed Meal	1
Parrish & Heimbecker, Ltd.	
"Parrheim" Pure Wheat Bran	1
Perk Foods Incorporated	
Bay-Mor Economy Breeder Pigeon Feed	1
Philadelphia Seed Company	
No. 1 Purgrain Pigeon Feed	1
Purgrain Racing Feed	1
Pillsbury Canada Ltd.	
Renown Bran	1
Pittsburg Brewing Company	
Iron City Brewers Dried Grains	1
Q&S Pet Foods Incorporated	
Playmate Dog Food	1
Quaker Oats Co. of Canada, Ltd.	
Northern Star Oat Middlings	1
Ken-L-Ration Burger for Dogs	1
Ken-L-Ration Special Cuts for Dogs	1
Ken-L-Ration Briskit	1
Ken-L-Ration Biskit Med. Kibbled	1

Brands Substantially Complying with Guarantees - Cont.

Manufacturer & Brand	Number of Samples Analyzed
Quaker Oats Co. of Canada,Ltd.	
Ken-L-Ration Meal	1
Hominy Feed	2
Peterborough Oat Hulls	1
Ralston Purina Company	
Purina Calf Startena (Coarse) Meal Mash	2
Purina Breeder Layena P	5
Purina Breeder Layena P Mash	1
Purina Cow Chow Special Meal Coarse P 16%	3
Purina Dairy Conditioner Chow	1
Purina Horse Chow Checkers	6
Purina Turkey Finisher (B)#2	5
Purina Protena Hog Feed Comp.	2
Purina Horse & Pony Chow N Meal	2
Purina Milk Chow 16% B (P)	2
Purina Big'Un for Foals	1
Purina Turkey Growena (B)#1	1
Purina Turkey Growena (B)#2	3
Purina Trout Chow	4
Purina Commercial Game & Bird Startena	1
Purina Commercial Game & Bird Finisher	3
Purina Breeding Horse Chow	2
Purina Nurse-Gro Med.	2
Purina Chick Chow (D) Coarse.	3
Purina Heifer Chow 14%	3
Purina Hen Chow D	5
Purina Goat Chow (Coarse)	2
Purina Milk Chow(B)(P) 16%	6
Purina Chin Chow for Chinchillas	2
Purina Guinea Pig Chow	2
Purina Lab. Chow for Mice, Rats, & Hamsters	1
Purina Complete Sow Chow Meal	1
Purina Omolene	3
Purina Milk Chow (P)B 20%	2
PurinaDAiry Chow (P) 14%	2
Purina Calf Startena Med.	2
Purina Commercial Chick Starter "D" Med.	3
Purina Hog Commercial Finisher "B"	2
Purina Layena P Mash	2
Purina Recleaned Wheat	1
Purina Layena P Checkeretts	1
Ralston Purina Company (Cont)	
Purina Commercial Game Bird F&M Chow Checkers	3
Purina Cat Chow	1
Purina Pullet DeveloperK	4
Purina Broiler Chow Finisher Checkered (B)	2
Purina Racing Pigeon Checkers	1
Whole Corn	1
Purina Dairy Dinner	1
Purina Gravy Dinner	1
Purina Seanip Dinner	1
Purina Cow Chow Special (P) (B) 16% (Coarse)	3
Purina Pigeon Grain Meal	2
Purina Rat Chow	1
Purina Rabbit Chow Checkers	4
Purina Monkey Chow	1
Purina Dairy Conditioner	3
Purina Commercial Hog Finisher B Med.	1
Purina Corn & Oats Provender	1
Central Flow Coated 49% Solvent Extracted Dehylled Soybean Meal	1
Purina Cow Chow Special (P) (B) 20%	1
Purina Fur Maker Mink Chow	1
Ground Yellow Corn	1
Purina Whole Barley	1
Purina Screened Cracked Corn	1
Purina Bir Milking Chow(G)Med.	1
Purina Chieck Growena Checkers	1
Purina Kit Maker Mink Chow	1
Purina Complete Sow Chow	2
Crimped Whole Oats & Molasses	1
Purina Dog Meal	4
Purina Dog Chow	4
Purina Puppy chow	2
Northeastern Scratch Feed	1
Grower Medicated	1
Purina Turkey Startena MP Med.	1
Purina Wild Bird Feed	1
Purina Cow Chow Concentrated 44%	1
Purina Big'Un	1
Purina Nursing Chow	2
Purina Pigeon Checkers	1
Purina Laboratory Chow	1
Chuck Wagon Instant Dinner for Dogs	1

Brands Substantially Complying with Guarantees - Cont.

Manufacturer & Brand	Number of Samples Analyzed
Rozansky Feed Company	
Dried Bakery Product	1
Rytman Feed Company	
Ryt-Span 16% Dairy Pellets .	1
Wm. G. Scarlett & Company	
Cardinal Brand Wild Bird Feed	1
Harvest Brand Wild Bird Food	1
Oriole Brand Parakeet Seed ..	1
Shafer Seed Company	
Wild Bird Food	2
The Sherwin-Williams Company	
Sherwin-Williams 34% Linseed Meal (Solvents Extracted).	3
South End Grain Company	
20% Challenge Layer P-1-1.....	1
20% Challenge Layer P-1-2 B...	1
20% Challenge Layer B 1-1-1 ..	1
20% Challenge Layer B L-1-2 ..	1
20% Challenge Layer S-2	3
20% Challenge Layer Ration Med.	1
Cage Layer Ration Special Mix 1-B P-1	2
Cage Layer Ration Special Mix 1-B S1	1
Cage Layer Ration Coarse L-2 1-A	1
Cage Layer Ration 1-A L-2 Fine	1
Cage Layer Ration 1-B Coarse L=1	1
Cage Layer Ration 1-B Fine L-1	1
20% Challenge Layer B	1
20 % Challenge Layer A	1
The Southern Cottonseed Oil Co.	
Etowalt Brand 36% Protein Cottonseed Meal	1
Standard Brands Incorporated	
Hunt Club Burgerbits	1
Hunt Club Burger Dog Food	1
Stanford Seed Company (Patco Inc.)	
Stanford's Wild Bird Food	1
Suni-Citrus Product Company	
Suni-Citrus Lo-Temp Pulp	2
Topco Associates Incorporated	
King's Kennel Dog Club Dog Dinner	1
United Coop. Farmers Incorporated	
UCF 16% Dairy	2
UCF 16% Super Coarse	1
UCF Hi-NRG All Mash Grower...	5
UCF Pig & Hog Feed	2
UCF Hi-NRG Starter	2
UCF Horse Feed	2
UCF Hi-NRG All Mash Layer....	5
UCF Dairy 16% Pellets	2
UCF Dairy 16% Regular	1
UCF Dairy 20%	2
UCF Med. Booster	1
UCF Rabbit Pellets	2
UCF Cage Layer 18%	1
UCF Milk Replacer	2
UCF Hi-NRG Starter Med.	1
UCF Scratch Feed	1
UCF Dry & Freshening Ration..	1
UCF Calf Grower Med.	1
UCF Dog Food	1
UCF Cage Layer #1	1
Ventura Grain Company	
Every Day Complete Layer 16%.	4
Every Day 14% Dairy	1
Every Day 16% Dairy	1
Pioneer 16 Dairy Pellets	2
Pioneer Horse Feed	2
Red Comb Complete Layer	1
Every Day Turkey Finisher 17%	1
Pioneer Rabbit Pellets	2
Pioneer 14 Pellets Flake Dairy	1
C.P. Washburn Company	
Made Right High Energy Layer .	1
Made Right Laying Mash	1
Made Right Horse Feed	1
Made Right Pig Feed	1
Made Right 16% Dairy	1
H.K. Webster Company	
Blue Seal Lay-Ettes	3

Brands Substantially Complying with Guarantees-Cont.

Manufacturer & Brand	Number of Samples Analyzed
H. K. Webster Co., (Cont)	
Blue Seal Stampede Horse Feed	2
Blue Seal Layer Cal	5
Blue Seal Sweet Crimped Oats	1
Blue Seal Grower Cal-AM	2
Blue Seal Rabbit Pellets	4
Yellow Cracked Corn	1
Blue Seal Milkers 16%	4
Blue Seal Trotter Complete Horse Ration	3
Blue Seal Milkers 18 Pellets	2
Blue Seal Flaky Mix	2
Blue Seal Pacer Horse Feed	5
Blue Seal Calf Starter Med	2
Blue Seal Pig Feed (Pellets)	4
Blue Seal Coarse 20 Test Cow Ration	1
Blue Seal All in One Ration for Cows & Heifers	4
Blue Seal Grower Cal-All Mash Growing Ration	2
Blue Seal Fat & Finish	2
Blue Seal Test Cow Ration 18 Coarse	3
Blue Seal Milk maker 16	4
Blue Seal Coarse 14 Fitting Ration	3
Blue Seal Coarse 16 Test Cow Ration	3
Blue Seal Balancer 36 Pellets	1
Blue Seal Egg Mash	2
Blue Seal All Mash Turkey Breeder's Pellets	1
Blue Seal Milkmaker 20 Dairy	1
Blue Seal Scratch Feed	2
Blue Seal Krispies Complete Dog Food	2
Blue Seal Krunchies	2
Blue Seal A-1 Pigeon Feed	1
Blue Seal Milky-Weigh 16	1
Blue Seal Charger	1
Blue Seal Turkey Growing	2
Blue Seal Song Maker Wild Bird	1
Blue Seal Krumettes Dog Food	1
Blue Seal Tasty Bits	1
Blue Seal Breeder Cal	1
Blue Seal Standard 20	1
Blue Seal Milk Replacer	1
Blue Seal Standard 16 Dairy Ration	1
Wilson Corn Products Incorporated	
Wilson Hominy Feed	1
Winslow-Mackenzie Incorporated	
Money's Worth Horse Feed	1
York Flour Mills Inc.	
Pure Wheat Boran	1

Brands Not Conforming to Guarantees

This table includes brands that are one percent or more under guarantee in protein or fat or are one and one-half percent or more over guarantee in fiber.

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fat Found	Fat Guaranteed	Fiber Found	Fiber Guaranteed
Agway, Inc.						
Agway Champion-AL	10.7**	14.0	---	---	---	---
Agway Super Fit-N-Fresh AL	14.0	13.0	---	---	---	---
Agway Mill Queen 20 (N.U.) Pellets	18.0**	20.0	---	---	---	---
Agway Champion	12.1**	14.0	---			
Agway Bulky	10.7**	12.0	---	---	---	---
Agway Dehulled Solvent Extracted	47.6**	49.0	---	---	---	----
Agway Pacemaker Starter (B)	18.3**	20.0	---	---	---	---
Kasco Chunks Bite Size Dog Food	25.7**	27.0	---	---	---	---
Agway Stock Primer	13.0**	15.0	---	---	---	---
Bernardston Grain Company						
Excel Fitting Ration	12.8**	14.0	---	---	---	---
Starter & Grower	16.1**	18.0	---	---	---	---
Excel Laying Mash	17.9**	19.0	---	---	---	---
Central Soya						
Master Mix Aureomycin Crumbles	14.1	14.0	4.0	4.	27.9	24.
The Coca Cola Company						
Golden Isle Citrus Pulp Brand	5.9	6.	1.8**	2.5	12.4	15.
Derby Feed Store						
Breeder Feed	12.2**	15.	---	---	---	---
J. W. Eshelman & Sons						
Red Rose Sow Supplement	33.2**	35.0	---	---	---	---
Essex Country Coop.Farming Assn.						
S-X Grow Egg Mash	17.7**	20.0	---	---	---	---
Farm Bureau Association						
Farm Bureau Dairy 16% Coarse	14.9**	16.0	---	---	---	---
Farm Bureau Dairy 18% Coarse	15.0**	18.0	---	---	---	---
Farm Bureau 18% Dairy Coarse	16.0**	18.0	---	---	---	----
Farm Bureau 18% Dairy Coarse	16.9**	18.0	---	---	---	---
Flory Milling Company						
Flory Cream Line Dry-N-Fresh	12.7**	14.0	---	---	---	---
Flory 16% Cream Line Dairy	12.8**	16.0	---	---	---	---
Flory Rabbit Pellets	15.3**	17.0	---	---	---	---
Hoosac Valley Coal & Grain Company						
16% Hoosac Valley Dairy Ration	14.4**	16.0	---	---	---	---
Jaquith & Company						
Coarse 16% Dairy Ration	14.9**	16.0	---	---	---	----

** Deficient

Brands Not Conforming to Guarantees - Cont.

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fat Found	Fat Guaranteed	Fiber Found	Fiber Guaranteed
Lockwood Nutrition Company						
Mixed Cereal Product-C Big M	9.9**	11.0	6.5	7.0	---	---
Dried Skim Milk Animal Feed Grade..	28.8**	32.0	---	---	---	---
Mackenzie & Winslow Inc.						
Money's Worth Dairy Feed 20%	17.7**	20.0	---	---	---	---
James F. Morse & Company						
Morse's 47% Meat & Bone Meal	45.8**	47.0	10.3	8.0	---	---
United Cooperative Farmers Inc.						
UCF 16% Dairy Coarse	14.1**	16.0	---	---	---	---
Ventura Grain Company						
Every Day 14% Dairy	13.5	14.0	2.9**	4.	5.3	8.
C.P. Washburn Company						
Made Right High Energy Grower	16.8**	18.0	----	---	---	---
H.K. Webster Company						
Blue Seal Fat & Finish Pellets	16.6**	18.	---	---	---	---
Blue Seal Stampede Horse Feed	16.6**	18.0	---	---	---	---
Blue Seal Finisher Pellets	18.9**	20.0	---	---	---	---
Blue Seal Coarse 20 Test Cow Ration	18.8**	20.0	---	---	---	---

** Deficient

Feeds Containing Drugs and Substantially Conforming to Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Agway, Inc.	
Agway Nu-Cashmaker 16-AL	1
Agway Nu-Cashmaker 16-A	7
Agway Game & Turkey Grower	5
Agway Nu-Cashmaker 16(A)	1
Agway Game & Turkey Starter	3
Agway Calf Grower-AL	2
Agway Pacemaker Starter(B)	4
Agway Sentinel for Chickens	1
Agway Hog Feed	2
Agway All Mash Grower(A)	2
Agway Turkey Finisher	2
Agway Sow & Pig Feed	3
Agway Ket-A-Way Pellets	1
Agway Nu-Cashmaker 18(A)	4
Agway Milksaver	2
Agway Hog Feed Pellets	1
Agway Turkey Finisher	1
Agway Calf Grower	5
Agway All Mash Grower (B)	1
Agway Booster (F) NF Bits	1
Agway All Mash Breeder (A)	1
Agway Roaster Finisher LBE	2
Agway Gro-Mix(B)	1
Agway Broiler Finisher Z	2
Agway Sow & Pig Supplement	1
Agway Provimi Provikalf Starter	1
Agway Broiler Starter Z	1
Agway Hi Ener-G 16	1
Agway Early Wean "24-20"	1
Agway Egg Producer 21(A)	1
Agway Complete Layer 18(A)	1
Agway Pacemaker Starter A	1
Agway Broiler Marketer	1
Agway Complete Layer (A)	1
Agway Sted A Milk	1
Agway Milksaver	1
Agway Pullet Grower 20(A)	1
Amdal Company	
Amdal Pro-Gen 90 Med.	1
Beacon Milling Company	
Beacon Egg Mate A	2
Be-Co Nurser Milk Replacer	1
Beacon Hi Pro Duck Grower	1
Beacon Milling Company(Cont)	
Beacon Tend-R-Lean Steer Finisher	1
Beacon Poultry Mix	1
Beacon Complete Starter	1
Beacon "20" Turkey Grower	2
Beacon Turkey Starter	1
Beacon Turkey Finisher	1
Beacon Calf Grower	1
Beacon All Mash	2
Central Soya	
Master Mix Califlac Med.	1
Master Mix Baby Pig Creep	1
Master Mix Complete Rabbit Pellets Med.	1
Master Mix Gro-Ets Med.	1
J.W. Eshelman & Sons	
Red Rose Porkmaker	2
Red Rose 50 Beef Cattle Supplement	2
Red Rose Hog Supplement	3
Red Rose Sow Supplement	1
Red Rose 30 Beef Cattle Supplement	1
Red Rose Complete Growing Ration	1
Red Rose Pig Starter Pellets Med.	1
Essex County Coop. Farming Assn.	
S-X Super All Mash EggA-Med.	1
S-X Chick Starter AP	1
Farm Bureau Association	
FB Chick Starter Mash	2
FB Rabbit Food Pellets	1
Farm Bureau Developer Complete Mash	2
Farm Bureau Pig Starter & Grower	1
Farm Bureau Rabbit Food Pellets	1
Farm Bureau Turkey Developer	1
Farm Bureau Turkey Starter	1

Feeds Containing Drugs and Substantially Conforming to Guarantees - Cont.

Manufacturer & Brand	Number of Samples Analyzed
Farm Bureau Association (Cont)	
Farm Bureau Pig Starter & Grower Mash	2
Farm Bureau Turkey Grower	1
Flory Milling Company	
Flory Chick Starter (U) Med.	1
Hales & Hunter Company	
Pioneer Vig-R-Calf Milk Replacer	2
H. P. Hood & Sons	
Hood Milk Replacer Med.	1
E.C. & W. L. Hopkins Incorporated	
Granite State Med. Pep	1
Marlboro Milling Corporation	
Broiler Starter Crumbles	1
Broiler Finisher Pellets	1
Custom Layer Pellets	1
Milk Specialties Incorporated	
Dari-Dri Veal Formula, Med.	2
Ralston Purina Company	
Purina Chick Boot-em Med.	2
Purina Commercial Game Bird Startena Med. SQ	1
Purina Veal Chow Med.	2
Purina Furrowing Chow F2 Med.	2
Purina Dairy Mineral Med.	1
Purina Pig Growena Med.	3
Purina Early Weaning Chow (G) Med.	1
Purina Pig Startena B	1
Purina Pullet Developer (K) 20 Checkers Med.	1
Purina Turkey Growena (B)#1	2
Purina Pig Growena B Med.	1
Purina Roaster Chow Med.	1
Purina Broiler Chow Starter (B) MPA Med.	1
Purina Turkey Finisher (B)#1 Med.	1
Purina Pullet Developer MP Med.	1
South End Grain Incorporated	
20% Challenge Layer B Med.	3
20% Challenge Layer A Med.	6
Sturdy Dog Food Company	
Sturdy Med. Kibbled Ration	1
United Coop. Farmers Incorporated	
UCF Hi-NRG Starter Med.	1
UCF Calf Grower Med.	1
UCF All Mash Grower Med.	2
UCF Medicated Booster 200 Med.	2
UCF Hi-NRG Starter Med.	1
Ventura Grain Company	
Every Day Complete Grower Med.	2
Every Day Complete Layer Med.	1
Every Day Turkey Grower 20% Med.	1
Every Day Complete Layer Med.	1
Every Day A.M. Turkey Grower Med.	1
Every Day Chick Starter Med.	1
Every Day Turkey Breeder	1
Special Mix Chick Starter	1
C.P. Washburn Company	
Made Right Starting	1
H. K. Webster Company	
Blue Seal Grower Cal Med.	1
Blue Seal Chick Starter Med.	1
Blue Seal Rabbit Pellets NF-SQ.	1
Blue Seal Finisher Pellets Med.	2
Blue Seal Turkey Grower Pellets HS Medicated	2
Blue Seal Charger 3-in-1	1
Blue Seal Broiler Crumbles Med.	1
Blue Seal 36 Balancer Pellets	1
Blue Seal Turkey Starter Crumbles Medicated	2
Blue Seal Grower Cal-AM	4
Blue Seal Rabbit Pellets Med.	3
Blue Seal Milk Replacer	1
Blue Seal NF-Hi-Mix Med.	2
Blue Seal Chick Starter Med.	1

Feeds Containing Drugs and Not Conforming to Guarantees

Manufacturer & Brand	Drug	Found	Guaranteed
Agway Inc.			
Agway All Mash Grower(A)...	Arsanilic Acid	0.0068**	.01
Agway Nu-Cashmaker16 (A)...	Arsanilic Acid	0.0068**	.01
Agway Sted-A-Milk	Chloretetracycline	48.**	100. g/Ton
Agway Sentinel Bits	Oxytetracycline	86 g/Ton**	200. g/Ton
Agway All Mash Grower (B)...	Amprolium	.0026**	.004
	Arsanilic acid	.0078	.01
John W. Eshelman & Sons			
Red Rose Hog Supplement	Bacitracin	41.** g/T	72. g/T
Red Rose Rabbit Pellets	Sulfaquinoxaline	.0175**g/T	.025 g/T
Red Rose Rabbit Pellets	Sulfaquinoxaline	.016** g/T	.025 g/T
Farm Bureau Association			
Farm Bureau Turkey Grower...	Nithiazide	.0026**g/T	.030
Farm Bureau Rabbit Food Pel.	Sulfaquinoxaline	.0185**g/T	.025

** Deficient
*# Combined Activity

Vitamin, Drugs, Mineral Mixtures and Premixes Substantially Conforming to Guarantees

Manufacturer & Brand	Number of Samples Analyzed	Manufacturer & Brand	Number of Samples Analyzed
Agway, Incorporated			
Agway Fortimin CPT with Vit...	1		
Agway Legumin (Min.&Vit.).....	1		
Commercial Solvents Corporation			
CSC Perma-Mix Grower Premix ...	1		
CSC Perma-Mix Layer Premix#3...	1		
CSC Perma-Mix Cage Layer Premix.	1		
Diamond Shamrock Chemical Company			
Nopco Grower Premix	1		
Distillation Products Industry			
PGB-325S Drug Vitamin A	1		
Farm Bureau Association			
Farm Bureau Hog Supplement	2		
Farm Bureau Advancer 20% Dairy	1		
Farm Bureau 32% Dairy Supplement	1		
Chas. Pfizer & Company			
Dairy Premix No. 1	1		
Ralston Purina Company			
Purina Dairy Mineral Mix Med...	1		
Syntha Laboratories Incorporated			
Breeder Supplement	2		
Starter Supplement	2		
Cage Layer	1		
Layer Premix	1		
Grower Premix	1		
Premix 1-B	1		
H.K. Webster Company			
Blue Seal Min-A-Mix Mineral & Vitamin Supplement	1		

Alfalfa Meals

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fiber Found	Fiber Guaranteed	Carotene Milligrams Per Pound
Agway, Inc.					
Agway 20% Dehydrated Alfalfa Meal	20.1	20.0	---	---	---
Hayward Incorporated					
17% Dehydrated Alfalfa Meal	15.7**	17.0	---	---	---
17% Dehydrated Alfalfa Meal	16.5**	17.0	---	---	---
Keyston Dehydrators Incorporated					
Keyston Dehydrated Super Green Alfalfa Meals w/Ethoxyquin	17.6	17.	2.8	2.	---

**Deficient

Directory of Manufacturers Who Registered Feed for Sale
in Massachusetts in 1970

Acme Evans Co., Div. of General Grain, 902 W. Washington Ave., Indianapolis, Indiana 46204
ADM Processing Co., Div. of Archer Daniels Midland Co., P.O. Box 1470, Decatur, Illinois 62525
Agway Incorporated, 560 Delaware Avenue, Buffalo, New York 14240
Agway Incorporated, Box 1333, Syracuse, New York 13201
Agway Incorporated, 1446 Buffalo St., Olean, New York 14760
Allied Chemical Corp., Agric. Division, 40 Rector St., New York, New York 10006
Allied Foods, Box 2928, 1450 Hills Place, N.W., Atlanta, Georgia 30301
Allied Mills, Inc., P.O. Box 459, Libertyville, Illinois 60048
Amburgo Co., Inc., 1315 Walnut Street, Philadelphia, Pennsylvania 19107
Amdal Co., Agric. Division, Abbott Labs., Abbot Park,N. Chicago, Ill.60064
American Crystal Sugar, 600 Boston Bldg., Denver, Colorado 80202
American Cyanamid Co., Box 400, Princeton, New Jersey 08540
American Maize-Products Co., 250 Park Avenue, New York, New York 10017
Anheuser-Busch, Inc., 721 Pestalozzi St., St. Louis, Missouri 63118
Alpine-Marine Protein Industry, Inc., 2 Washburn St., New Bedford, Mass.02742

H. J. Baker & Bros., 360 Lexington Ave., New York, New York 10017
Barber & Bennett, Inc., Arch & Church Sts., Albany, New York 12200
Bay State Milling Co., 4700 Prudential Center, Boston, Massachusetts 22020
Beacon Feeds, Division of Textron Inc., Cayuga, New York 13034
Bernardston Grain Company, Bernardston, Massachusetts 01337
Best Feeds & Farm Supplies, Inc., Oakdale, Pennsylvania15701
BFS Corp., Boston Feed Supply, 177 Milk Street, Boston, Mass.02109
Bishop Processing Company, Bishopville, Maryland 21812
Borden Grain Company, 700 West Water St., Taunton, Mass. 02780
Boston Molasses Co., 920 E. First St., South Boston, Mass.02127
James P. Brown Co., Inc., 310 Franklin St., Worcester, Mass.01604
Brown-Forman Distillers Corp., 1908 Howard St., Louisville, Kentucky 40201

Cargill Inc., Cargil Bldg., Minneapolis, Minnesota 55402
Carling Brewing Co., Inc., 940 Quincy Ave., Cleveland, Ohio 44106
Carnation Co., 5045 Wilshire Ave., Los Angeles, Calif. 90036
Central Conn. Coop. Farmers Assoc., Inc., 10 Apel Pl., Manchester, Conn.06040
Central Soya, 1300 Ft. Wayne National Bank Bldg., Ft. Wayne,Indiana 46802
Champion Valley Farms Inc., Box 391, Camden, New Jersey 08101
Chelsea Milling Company, NorthSt., Chelsea, Michigan 48118
Cherry Taylor Flour Mills, Preston, P.O. Box 368, Ontario, Canada
Clinton Corn Processing Co., Box 340, Clinton, Iowa 52732
Citrus World Inc., Florida Citrus Canners Corp., P.O.Box 1111,Lake Wales,Flo.
Coca-Cola Co., Foods Division, Box 2079, Houston, Texas 77001
Commercial Solvents Corp., 1331 So. 1st St., Terre Haute, Indiana 47808
Conlon & Donnelly Co., So. Main & Wall St., Attleboro, Mass. 02703
Corenco Corporation, 525 Woburn St., Tewksbury, Mass.01876
CPC International Inc., 54 Fulton St., Buffalo, New York

Dawe's Laboratories, 45State Street, Chicago Heights, Illinois 60411
Dawnwood Farms, Wassaic, New York 12592
F. Diehl & Son, Inc., 180 Linden St., Wellesley, Mass. 02181
Dixon Bros., Inc., Box Q, Old Greenwich, Connecticut 06870
Dow Brewery Ltd., 990 Notre Dame Street, West Montreal, Quebec, Canada
Dow Chemical Co., Midland, Michigan 48640
E.I. duPont de Nemours & Co., 6054 DuPont Bldg., Wilmington, Delaware 19898

Eastman Gelatin Corp., 227 Washington St., Peabody, Mass. 01960
Eastman Chemical Products, P.O. Box 431, Kingsport, Tenn. 37662
John W. Eshelman & Sons, 244 North QueenSt., Lancaster, Pennsylvania 17600
Essex Co-Op Farming Assoc., Topsfield, Mass. 01983
Evans Milling Co., Inc., 1730 W. Michigan St., Indianapolis, Ind. 46206
John Ewing Company, P.O. Box 188, LaSalle, Colorado 80645

First National Stores, Inc., 5 Middlesex Aven., Somerville, Mass.02147
Falstaff Brewing Corporation, 5050 Oakland Avenue,St., Louis, Missouri 63110
Farm Bureau Association, 158 Lexington St., Waltham, Mass. 02154
Farmers Feed Company, 375 Johnson Avenue, Brooklyn, New York 11206
Feeds, Inc., Wrentham, Massachusetts 02093
Feed Service Corporation, Box 270, Crete, Nebraska 68333
Flory Milling Co., Inc., North Main St., Bangor, Pennsylvania 18013
Foremost Food Company, 111 Pine Building, San Francisco, Calif. 94111
Fruen Milling Co., Box 3172, Traffic Sts., Minneapolis, Minn. 55400
R. T. French, Co., 1 Mustard St., Rochester, N.Y. 14609

J. I. Gates Milling Co., 1137 W. Broad St., Columbus, Ohio 43200
General Foods Corp., 1551 East Wilbw St., Karhakee, Illinois 60901
General Mills Inc., 9200 Wayzata Blvd., Minneapolis, Minn. 55440
Golden Gem Growers Inc., Umatilla, Florida 32784
Grain Processing Corp., 1600 Oregon St., Miscatine, Iowa 52761
Grand Union Co., 100 Broadway, E. Paterson, N.J.

Hales & Hunter Co., 1200 No. Star Center, Minneapolis, Minnesota 55402
Hartz Mountain Products Corp., 50 Cooper Square, New York, New York 10003
Hayward Inc., Oak Harbor, Ohio 43449
Hess & Clark, Inc., 7th & Orange Streets, Ashland, Ohio 44805
Hi-Acres Concentrate, Box 7217, Orlando, Florida 32804
Hi-Life Packing Co., 18 South Michigan Avenue, Chicago, Ill. 60603
Hoffman-LaRoche Inc., 340 Kingsland Ave., Nutley, New Jersey 07118
H.P. Hood & Sons, Box 979, Dunedin, Florida 33528
E.C. & W. L. Hopkins Inc., Greenfield, New Hampshire 03047
Horlicks Corporation, 1450 Summit Avenue, Racine, Wisconsin 53404
Hubinger Company, 601 Main Street, Keokuk, Iowa 52632

Illinois Cereal Mills Inc., Box 220,
International Fortrition Inc., 3092 Piedmont Rd., N.E., Atlanta, Georgia 30305
International Minerals & Chem. Corp., Old Orchard Rd., Skokie, Ill. 60076
International Milling Co., 1200 Investors Bldg., Minn., Minnesota 55402
International Salt Co., Inc., Clarks Summit, Pennsylvania 18411
International Stock Food Corp., 533 Broad St., Waverly, New York 14892

I. S. Joseph Co., Inc., 800 Flour Exchange Bldg., Minn., Minnesota 55415

Kane Molasses Lab. Inc., Drawer E., Mt. Pulaski, Ill. 62548
Kellogg Co. of Canada, Ltd., P.O. Box 5517, London 12, Ontario, Canada
Keystone Chemurgic Corp., R.D. #2, Bethleham, Pennsylvania 18017
Keystone Dehydrators, Box 204, Nazareth, Pennsylvania 18064
Keynes Bros. Inc., P.O. Box 628, Logan, Ohio 43138
H. C. Knoke & Co., 5728 W. Roosevelt Rd., Chicago, Ill. 60650
Kraft Foods, Div. of Nat. Dairy Products Corp., 99 Park Ave., N.Y.,N.Y. 10016
Chas. A. Krause Milling Co., P.O. Box 1156, Milwaukee, Wisconsin 53200
Kuder Pulp Sales Co., Box 1208, Lake Alfred, Florida 33850

Land O Lakes Inc., 2215 Kennedy St., N.E..,Minneapolis, Minnesota 55440
LaCrosse Milling Company, Cochrane, Wisconsin 54622
Lauhoff Grain Co., 321 East North St., Danville, Illinois 61832
Lipman Marine Products Inc., Box 779, State Fish Pier, Gloucester, Mass.01930
Liv-A-Snaps Inc., 4251 Fernwood Arden Hills, St. Paul, Minnesota 55100
Lykes Pasco Packing Co., Box 97, Dade City, Florida 33525
Lockwood Nutrition Service Inc., 177 Milk St., Boston, Mass.02109

Mackenzie & Winslow Inc., 577 Davol St., Fall River, Mass. 02720
MaineSugar Industries, Easton, Maine 04740
Mak-More Corporation, P.O. Box 123, Clinton, Mass. 01510
Maple Leaf Mills Co., Ltd., Queens Quay, Toronto, Ontario, Canada
Marlboro Milling Co., 50 Brigham St., Marlboro, Mass. 01752
Marvin Grain & Hardware Co., 31 Cove Rd., So. Dartmouth, Mass. 02712
Maxon Mills, Wassaic, New York 12592
Mauser Milling Co., Treichlers, Pennsylvania 18086
Mayflower Mills, 931 Leesburg Rd., Ft. Wayne, Indiana 46800
McCabe Grain Co., Ltd., 409 Grain Exchange Bldg., Winnipeg, Manitoba, Canada
Mearl Corporation, Broad Cove Rd., Eastport, Maine 04631
The Mennel Milling Co., 128 W. Crocker St., Fostoria, Ohio 44830
Merck & Company, Rahway, New Jersey 07065
Merrimack Farmers Exchange Inc., 18-22 Low Avenue, Concord, New Hampshire
Milk Specialties Inc., Box 278, Dundee, Illinois 60118
Molson's Brewery Quebec Ltd., 1555 Notre Dame St., East Montreal, Quebec
Minerals, Pigments , & Metals Division, Chas. Pfizer Inc., 260 Columbia Street, Adams, Massachusetts
Monsanto Chemical Company, 800 No. Lindbergh Blvd., St. Louis, Missouri 63100
Jas. F. Morse & Co., 11 Horace St., Somerville, Massachusetts
Morton Salt Co., 110 No. Wacker Drive, Chicago, Illinois 60606
Mowat Wilson & Co., Box 5171, Seven Oaks Station, Detroit, Michigan

National Alfalfa Dehydrating & Milling Co., 6811 W. 63 rd St., Overland Park, Kansas 66201
National Biscuit Co., 425 Park Avenue, New York, N.Y. 10022
National Distillers & Chem. Corp., 11750 Chesterdale Rd., Cinninnati, Ohio
National Molasses Company, Willow Grove, Pennsylvania 19090
National Starch & Chem. Corp., 1515 Drover St., Indianapolis, Ind. 46206
Northern Ohio Sugar Co., 1530 Sixteenth St., Denver, Colorado 80202
New Richmond Foods, Div. of Domain Ind., Inc., 3050 Metro Drive, Minneapolis, Minnesota 55420
Norwich Animal Industry Inc., Box 191, Norwich, New York 13815

Norwich Pharmacal Co., 17 Eaton Ave., Norwich, New York 138115
Nutri-Tech Corporation, 1112 Boylston St., Boston, Mass. 02215

Ogden Grain Co., Wurz Avenue, Utica, New York 13500
Ohio Blenders Inc., 2404 Summit Street, Toledo, Ohio 43611
Occidental Chemical Co., Box 1185, Houston, Texas 77001
Oyster Shell Products Co., P.O. Box 1225, Mobile, Alabama 36601

Pacific Molasses Company, 215 Market St., San Francisco, Calif. 94105
Parrish & Heimbecker Ltd., 43 Scott St., Toronto, Ontario, Canada
Peavey Company Flour Mills, Minneapolis, Minnesota 55415
Penick & Ford, Ltd., Inc., Box 428, Cedar Rapids, Iowa 52406
Perk Foods Co., 500 North Dearborn St., Chicago, Illinois 60610
Chas. Pfizer & Co., Inc., 235 East 42nd St., New York, New York 10017
Philadelphia Seed Co., Inc., P.O. Box 230, Chemical & Graves Roads, Plymouth Meeting, Pennsylvania 19462
Pillsbury Co., 1033 Pillsbury Building, Minneapolis, Minnesota 55402
Pittsburgh Brewing Co., 3340 Liberty St., Pittsburgh, Pennsyvlania 15201
Point Judith By-Products Co., Div. of Point Judith Fishermens Coop. Assn., Box 730, Narragansett, Rhode Island 02882
PPG Industries Inc., 118 Main Street, Red Wing, Minnesota 55066
Publicker Industries Inc., 1429 Walnut St., Philadelphia, Pennsylvania 19102

Quaker Oats Co., Merchandise Mart Plaza, Chicago, Ill. 60654
Quaker Oats Company of Canada, Ltd.,Peterborough, Ontario, Canada

Ralston Purina Co., 835 So. Eighth Street, St. Louis, Missouri 63102
Roto Salt Co., Factory St., Union Springs, New York 13160
Rozansky Feed Co., Inc., 286 Secaucus Rd., Secaucus,New Jersey
Russell Feed Co., R.F.D. #1, Rt. 6, Andover, Connecticut 06232

Wolf Savitsky & Sons, Inc., Foot of White St., Shelton, Conn. 06483
Schenley Distillers Inc., 1290 Avenue of the Americas, New York, New York 10019
Seaboard Allied Milling Corp., 1550 W. 29th St., Kansas City, Missouri 64102
Jos. F. Seagram & Sons Inc., 508 W. High St., Lawrenceburg, Indiana 47025
Sherwin-Williams Co., P.O. Box 5638, Cleveland, Ohio 44101
J. R. Short Milling Co., Box 547, Mt. Vernon, Indiana 47020
Southern Cotton Oil Co., P.O. Box 24219, N. Orleans, Louisianna
Southern Fruit Distributors Inc., Box 8367, Orlando, Florida 32806
Spencer Kellogg & Sons, Inc., 120 Delaware Avenue, Buffalo, New York 14240
E.R. Squibb & Sons, N. Brunswick, New Jersey
A. E. Staley Manufacturing Co., 2200 E. Eldorado St., Decatur, Illinois
Staff Supermarket Associates, 333 Jericho Turnpike, Jericho, N.Y. 11753
Standard Brands Inc., 625 Madison Avenue, New York, N.Y. 10022
Star-Kist Foods Inc., 582 Tuna St., Terminal Island, California 90731
F. W. Stock & Sons Inc., 101 E. Bacon St., Hillsdale, Michigan 49242
Strongheart Products Inc., 165 Branchport Aven. Long Beach, N.J. 07740
Sturdy Dog Food Co., 2103 West Genesee St., Syracuse, N.Y. 13200
Suni-Citrus Products Co., Agent Cocke & Co., 208 William Oliver Bldg. Atlanta, Georgia 30303
Sunshine Biscuits, Inc., 951 Mechanic St., Grafton, Ohio 44044

Smith-Douglas, Div.of Borden Chemical Co., P.O. Box 419, Norfolk, Virginia
Swift & Company, P.O. Box 110, Fostoria, Virginia 23501
Syntha Labs., Box 2, W. Alexandria, Ohio 45381

Tater Meal Inc., Box 413, Presque Isle, Maine

Union Division, 900-19th St., Granite City, Illinois 62040
United Coop. Farmers Inc., 339 Broad St., Fitchburg, Mass.01420
U.S. Gypsum Company, 101 S. Wacker Drive, Chicago, Illinois 60600
Universal Grain Co., of New Jersey, 425 South Street, Newark, N.J. 07105

Hiram Walker & Sons, Inc., Foot of Edmond St., Peoria, Illinois 61600
C.P. Washburn Co., Center Street, Middleboro, Mass.02346
Watkins Salt Co., Inc., Watkins Glen, New York 14891
H. K. Webster Co., 24 West Street, Lawrence, Massachusetts 01840
Westgate Calif. Foods Inc., 1995 Bay Front, San Diego,Calif. 92112
Wilson & Co., Inc., Box 471, Cedar Rapids, Iowa 52400
Wilsons Corn Products Inc., East Fourth St., Rochester, Indiana 46976

York Flour Mills, Inc., RD #5, York, Pennsylvania 17402

INSPECTION OF COMMERCIAL FEEDSTUFFS 1971

By Feed & Fertilizer Staff -- Report No. 77

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John W. Kuzmeski, Professor
Georgia P. French, Instructor
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Paul Korpita, Assistant Chemist
Kenneth A. Pelton, Technical Assistant
David P. Houle, Sr. Technical Assistant
John Stewart, Technical Assistant
Raymond Bellemare, Inspector
Elaine S. Brooks, Jr. Clerk and Stenographer
Janice M. Lacinski, Sr. Clerk and Stenographer

FEED, SEED, FERTILIZER DIVISION

MASSACHUSETTS AGRICULTURAL EXPERIMENT STATION

WEST EXPERIMENT STATION, UNIVERSITY OF MASSACHUSETTS

AMHERST, MASSACHUSETTS 01002

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated	
Agway Super Test Feed	3
Agway Choice	4
Agway Trim	2
Agway Rabbit Pellets	2
Agway Nu-Milkerpels 16	6
Agway Champion AL	3
Agway Nu-Cashmaker 16-Bl	9
Agway Super Fit'N Fresh AL	2
Agway Milkmaker 16	3
Agway 14 Record Fitting & Calving Feed	1
Agway Mill Queen 16 Pel	1
Agway All Mash Growers	3
Agway Super Fit'N Fresh	2
Agway 16 Hi-Cal Pel.	4
Agway Fullpail (for cows)	2
Agway Stock Primer	1
Agway Sow Feed -GA Pel.	1
Agway Sow Feed -GA Mash	2
Agway Calf Grower Pel. Med	5
Agway 16% Pig Feed Pel. Med	2
Agway Game & Turkey Grower Pellets,Med.	5
Agway Hog Feed GA Med.	4
Agway Hog Feed GA Pel. Med	5
Agway Supmix 36%(for cattle)	2
Agway Turkey Finisher Pel.Med	2
Agway All Mash Layer Pel	1
Agway Crunchy-Dari (for cows)	2
Agway Complete Horse Feed Pel	1
Agway Ket-A-Way Pel. Med	1
Agway Hi-Ener-G 16	1
Agway Respond Complete Horse Feed	3
Agway Mill Queen 16 Pel.MA	1
Agway All Mash Grower Med	2
Agway Tone Pellets(for horses)	1
Agway Silage Booster 20 Pel	1
Agway Dehulled Solvent Extracted Soybean Meal	1
Agway Shush Pup Big Red Dog Food	1
Agway Big Red Rabbit Food	2
Agway Milksaver Med.	1
Agway Nu-Cashmaker 16	1
Agway Exchange Champ-AL	1
Agway Early-Wean "24-20"	1
Agway 16% Pig Feed GA Med	1
Agway Early Market Lamb Pel	1
Agway 40% Mixer Formulets	1
Agway Complete Sow Chow	1
Agway 32% Milkmaker	1
Allied Mills Incorporated	
Wayne Dog Food (Bite Size)	2
Wayne Dog Food (Chunk Size)	1
Beacon Milling Company	
Beacon Turkey Finisher Med	1
Beacon Cracked Corn	1
Beacon Turkey & Game Bird Starter Med.	1
Beacon Trail-Mate Horse Feed	1
Beacon '20' Turkey & Game Bird Crumbles Med.	3
Beacon Brisk Compl. Horse Feed	1
Beacon Egg Producer	1
Beacon Milk Producer 16	1
Beacon Rumentrol Pel. Med	1
Beacon Complete Rabbit Pel	1
Bernardston Grain Company	
Horse Feed	1
Excel Laying Mash	1
Starter & Grower	1
Excel 16% Dairy Ration	1
Best Feeds Incorporated	
Joy Special Dog Food Meal	1
Best Feeds Dog Food Meal	1
Borden Grain Company	
Borden's 14 Fitting	1
Borden's Special Dairy	1
Boston Feed Company	
Mt. Apus Fish Meal, Prod. of Poland	1
Central Soya & Subsidiaries	
Central Flow Dehydrated Soybean Meal	1
CPC International Incorporated	
Best Foods Pulverized White Oats	1
Coca-Cola Company	
Golden Isle Citrus Pulp	1

Brands Substantially Complying with Guarantees -Cont.

Manufacturer & Brand	Number of Samples Analyzed
John W. Eshelman & Sons	
Red Rose Porker Med.	2
Red Rose Rabbit Pel. Med....	1
Complete Growing Ration	1
Red Rose Pig Starter Pel.Med.	1
Red Rose Egg Maker	1
Red Rose Calf Starter Med. ..	1
Red Rose 16 Turkey Finisher Med.....	1
Red Rose Super Horse Feed ...	1
Red Rose Complete Horse Pel..	1
Farm Bureau Assn.	
FB Controlled Energy Complete Developer Med.	1
FB Brand Fitting Ration.....	1
FB Brand Layer Breeder Mash...	1
FB Complete Producer Crumbles.	1
FB Advancer	1
FB Dairy 20% Pellets	1
FB Pellets Ketosis Control Dairy Pellets	1
FB Calf Grower	1
FB Dairy 16%	3
FB Complete Producer Mash....	1
FB Rabbit Food Pellets	1
FB Stress Mash Med.	1
Farmers Feed Company	
Bull Brand Brewers Dried Grains	1
Foremost Foods Company	
Peebles M-N-C Dried Whey Prod.	1
E.C. & W. L. Hopkins, Incorporated	
Granite State Rabbit Pellets.	1
Granite State High Energy Laying Mash	1
L.A. Crosse Milling Company	
Pulverized Mixed Feed Oats...	1
Land O'Lakes Incorporated	
Land O'Lakes Formula FM21-30..	1
Milk Specialties Incorporated	
Dari-Dri Veal Formula	1
Mowat, Wilson & Company	
Dried Beet Pulp	1
Nabisco's Incorporated	
Nabisco Wheat Bran	1
Pittsburgh Brewing Company	
Iron City Brewers Dried Grains	1
The Quaker Oats Company	
Ken-L-Ration Biskit Meal Kibbled	1
Quaker Oats Company of Canada	
North Star Oat Middlings.....	1
Ralston Purina Company	
Purina Calf Startena Med.....	4
Purina Nurse-Gro Med.	1
Purina Rabbit Chow Checkers..	2
Purina Game Bird Flight Conditioner	1
Purina Dairy Conditioner Chow	3
Purina Layena T Checkeretts..	3
Purina Milk Chow Meal 16%....	4
Purina Omolene	2
Purina Breeder Layena P Check.	1
Purina Horse Chow Checkers...	1
Purina Cow Chow Checkers.....	1
Purina Guinea Pig Chow Check.	2
Purina Protena Hog Feed Complete Checkers....	2
Purina Pullet Developer Mash.	1
Purina Turkey Finisher Check.	1
Purina Farrowing Chow FZ Med.	1
Purina Chick Growena Check...	1
Purina Eggena W/Mash	2
Purina Game Bird Flight Cond.	2
Purina Calf Growena	1
Sherwin-Williams Company	
34% Linseed Meal	1
J.H. Smith Grain Company	
Smith's Best-of-All	1
Suni-Citrus Products Company	
Suni-Citrus Lo-Temp Pulp	1

Brands Substantially Complying with Guarantees -Cont.

Manufacturer & Brand	Number of Samples Analyzed
United Coop. Farmers Inc.	
UCF Dog Food	1
UCF Dog Food Nuggets	1
UCF Milk Replacer Med.	1
UCF Hi-NRG All Mash Layer	2
UCF Hi-NRG All Mash Breeder	1
UCF Cage Layer 17	1
UCF Hi-NRG All Mash Grower	1
UCF Pig & Hog Feed	1
UCF Rabbit Pellets	1
UCF 16% Dairy Super	4
UCF Cage Layer 18	1
UCF Horse Feed	1
UCF 14% Dairy	1
UCF 20% Dairy	1
Ventura Grain Company	
Every Day Complete Layer 16	1
Every Day 16% Dairy Pellets	1
H.K. Webster Company	
Blue Seal Racer Horse Feed	2
Blue Seal Standard 20 Dairy Ration	3
Blue Seal Coarse 14 Fitting Ration	2
Blue Seal Trotter	1
Blue Seal Layettes	3
Blue Seal Growers-Cal Growing Ration	2
Blue Seal Fat & Finish Pel	1
Blue Seal Trotter Complete Horse Ration	1
Blue Seal Milkers 16 Pellets	1
Blue Seal Turkey Growing	2
Blue Seal Flaky Mix	1
Blue Seal Milkers 18 Pellets	1
Blue Seal Charger, 3-in-1 Horse Feed	2
Blue Seal Layer Cal Pellets	2
Blue Seal Rabbit Pellets	3
Blue Seal All-in-One Dairy Ration	1
Blue Seal Chick Starter	1
Blue Seal Feed Pig Pellets	1
Blue Seal Balancer 36 Pellets	1
H. K. Webster Company (Cont.)	
Blue Seal Lab Pels	2
Blue Seal NF-200 Mix Med	1
Blue Seal Milk Maker 16 Dairy Pellets	1
Blue Seal Stampede Horse Feed	1
Blue Seal Coarse 16 Test Cow Ration	1
Blue Seal Coarse 20 Test Cow Ration	1
Blue Seal Krumettes	1
Blue Seal Blox	1
Blue Seal Coarse 18 Test Cow Ration	2
Blue Seal Calf Starter	1

Brands Not Conforming To Guarantees

This table includes brands that are one percent or more under guarantee in protein or fat or are one and one-half percent or more over guarantee in fiber.

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fat Found	Fat Guaranteed	Fiber Found	Fiber Guaranteed
Agway Incorporated						
Agway Turkey Finisher Pel.Med.	14.6**	16.0	----	-----	----	----
Agway Calf Grower Med.	15.8**	18.0	----	-----	----	----
Agway Roaster Finisher Med..	14.3**	16.0	----	-----	----	----
Agway Calf Grower Med.	17.0	18.0	----	-----	----	----
Agway Nu-Cashmaker 16 Bl Bits	15.0	16.0	----	-----	----	----
Farm Bureau Assn.						
FB Complete Cage & Breeder...	15.8**	17.0	----	-----	-----	----
Hoosac Valley Coal & Grain Co.						
16% Hoosac Valley Dairy Ration	14.2**	16.0	----	----	----	----
Ralston Purina Company						
Purina Sweetena Special Meal	W.T.*	14.0	----	----	----	----
United Coop. Farmers Inc.						
UCF Calf Grower	17.5**	20.0	----	----	----	----
Ventura Grain Company						
Every Day 16% Dairy Meal	14.9**	16.0	----	----	----	----
Every Day Turkey Starter	26.8**	28.0	----	----	----	----
H.K. Webster Company						
Blue Seal Finisher Pellet Medicated	18.4**	20.0	----	----	----	----
Blue Seal Turkey Starter Crumbles	26.7**	28.0	----	----	----	----
Blue Seal Calf Starter	17.9**	19.0	----	----	----	----

**Deficient

Feeds Containing Drugs and Substantially Conforming to Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated	
Agway Milksaver Med.	1
Agway All Mash Grower (A) Medicated	1
Agway Sentinel Bits Med.	1
Agway All Mash Grower (B) Bits, Medicated	1
Agway Gro-Mix(B) Med.	1
Agway Broiler Finisher(2) Pellets, Med.	1
Agway All Mash Grower (B) Pellets, Med.	1
Agway Booster (F) Bits,Med.	1
Agway Pacemaker Starter (B) Medicated	1
Agway Roaster Finisher (LBE) (for chickens)Pel. Med.	1
Provikalf Starter Med.	1
Provikalf Finisher Med.	1
Agway Game & Turkey Starter (X) Crumbles Med.	1
Agway Broiler Starter (Z) Crumbles Med.	1
Agway All Mash Breeder (A) Bits Medicated	1
Agway Turkey Grower (T) Pellets, Med.	1
Agway All Mash Grower (A) Crumbles (for chickens) Medicated	1
Agway Booster (F) Bits Med.	1
Agway Hog Grower Supplement	1
Agway Early Wean "24-20"	1
Beacon Milling Company	
Beacon Turkey Finisher All Mash Medicated	1
Beacon "20" Turkey Grower 4N Pellets, Med.	2
Beacon Complete Starter AP Med.	1
Beacon Turkey Starter AP Med.	2
Beacon Pullet Grower Med.	2
Beacon Calf Grower Med.	1
Beacon Egg Mate A Pell. Med.	2
Farm Bureau Association	
FB Pig Starter & Grower	1
FB Turkey Grower	1
FB Rabbit Food Pellets	1
FB Complete Developer Mash	2
FB Chick Starter Mash	1
Hoffman-Taff, Incorporated	
Cage Layer Premix	1
Ralston Purina Company	
RP Chow Checkers Med.	1
RP Farrowing Chow Med.	1
Purina Turkey Growena K#2 CR Medicated	2
Purina Growena Pig D Med.	4
Purina Broiler Chow(D) Med.	2
Purina Commercial Chick Starter	1
Purina Turkey Finisher (K)CR	1
Purina Commercial Hog Finisher	2
Purina Chick Startena (D)	1
Syntha Laboratories Inc.	
Layer Premix	1
Grower Premix	1
United Coop. Farmers	
UCF Hi-NRG All Mash Grower Medicated	1
UCF Hi-NRG Starter	1
UCF Medicated Booster NF200.	1
UCF Starter Medicated	1
Ventura Grain Company	
Every Day Chick Starter Med.	1
H. K. Webster Company	
Blue Seal Chick Starter Med.	1
Blue Seal Grower Cal AM Med.	2
Blue Seal Chick Starter Med.	2
Blue Seal Turkey Grower Pel.	2
Blue Seal Finisher Pell.Med.	1
Blue Seal Turkey Starter Med.	1
Blue Seal Rabbit Pel. Med.	2
Kraft Food	
Kaff-A-Milk Replacer for Calves Med.	1

Feeds Containing Drugs and Not Conforming to Guarantees

Manufacturer & Brand	Drug	Found	Guaranteed
Agway Incorporated			
Agway All Mash Grower (B) Bits..	Amprolium	.0019**	.004
Agway Sted-A-Milk	Niacin	W.T.*	12.5 mg/lb.
Ralston Purina Company			
Purina Pig Startena L Checker-ettes, Med.	Chlortetracycline	55**g/T	100 g/T
Ventura Grain Company			
Every Day Turkey Grower 23%	Carb-O-Sep	.025**	.0375
H.K. Webster Company			
Blue Seal Rabbit Pellets, Med...	Sulfaquinoxaline	.0080**	.0125

** Deficient
*** Combined Activity

Vitamin, Drugs, Mineral Mixtures and Premixes Substantially Conforming to Guarantee

Manufacturer & Brand	Number of Samples Analyzed	Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated			
Agway Legumin	1		
Agway Sted	1		
Albers Milling Company			
Albers Suckle	1		
Albers Calf Manna	1		
Allied Chemical Corporation			
Compensator MX (Legum Food Supplement)	1		
Compensator PR (Legum Food Supplement)	1		
Beacon Milling Company			
Milk Producer Premix	1		
Beacon Breeder Mash Premix ...	1		
Borden Chemical Company			
CMR Base-complete Supplement for Calf Milk Replacer....	1		
J. W. Eshelman & Sons, Inc.			
RR Sow Supplement	1		
RR Pig Pre-Starter Pellet Med.	1		
H.K. Webster Company			
Blue Seal Min-A-Mix Vit. Supplement	1		

Alfalfa Meals

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fiber Found	Fiber Guaranteed	Carotene Milligrams Per Pound
Agway Incorporated					
Agway 20% Dehydrated Alfalfa Meal Pellets.....	20.6	20.	---	---	---
National Alfalfa Dehydrated Co.					
17% Protein Dehydrated Alfalfa Meal	17.0	17.0	---	---	---

Directory of Manufacturers Who Registered Feeds for Sale in Massachusetts in 1971

Acme Evans Company, Div. of General Grain Inc., 902 West Washington Avenue, Indianapolis, Indiana 46204
ADM Processing Co., Div. of Archer-Daniels-Midland Co., P.O. Box 1470, Decatur, Illinois 62525
Agway Incorporated, Feed Division, P.O. Box 128, Buffalo, New York 14240
Agway Incorporated, Country Best, P.O. Box 1333, Syracuse, N.Y. 13201
Albers Milling Co., A Div. of Carnation Co., 5045 Wilshire Boulevard, Los Angeles, Calif. 90036
Allen Products Co., Inc., R.D. #3, Allentown, Pa. 18001
Allied Chemical Corp., Agricultural Division, 40 Rector St., New York, New York 10006
Allied Foods Inc., 1450 Hills Place, N.W., Atlanta, Georgia 30318
AMDAL Company, Agricultural Division Abbott Laboratories, 1400 Sheridan Road, North Chicago, Illinois 60064
American Crystal Sugar Company, 600 Boston Building, Denver, Colorado 80202
American Cyanamid Company, P.O. Box 400, Princeton, New Jersey 08540
American Maize-Products Company, 250 Park Avenue, New York, N.Y. 10017
Anheuser-Busch, Inc., 721 Pestalozzi Street, St. Louis, Missouri 63118
Animal Nutrition Inc., 9200 West Main St., Belleville, Illinois 62223
Aquarium Supply Company, 50 Cooper Square, New York, New York 10003
Atlantic Gelatin General Foods Corp., Hill Street, Woburn, Mass. 01801
Ayerst Laboratories, 685 Third Avenue, New York, New York 10017

H. J. Baker & Brothers, Inc., 360 Lexington Ave., New York, New York 10017
Barker & Bennett Inc., Port of Albany, Box 430, Albany, New York 12201
Beacon Feed Service, Uxbridge, Mass. 01569
The Beacon Milling Co., Inc., Cayuga, New York 13034
Bernardston Grain Co., Bernardston, Mass.
Best Feeds & Farm Supply, Inc., Oakdale, Pennsylvania 15071
Borden Grain Co., 700 West Water St., Taunton, Mass.
Boston Feed Supply Corporation, 177 Milk St., Boston, Mass. 02109
Boston Molasses Company, 920 E. First St., South Boston, Mass. 02127
James P. Brown Co., Inc., 310 Franklin St., Worcester, Mass.06104
Brown-Forman Distillers Corp., P.O. Box 1080, Louisville, Kentucky
The Buckeye Cellulose Corp., 301 E. 6th Street, Cincinnatti, Ohio 45201
B&W Canning Company, Inc., P.O. Box 98, 305 W. Broad St., Groveland, Florida 32

Cargill Incorporated, Processing & Refining Division, Cargill Building, Minneapolis, Minnesota 55402
Carling Brewing Company, 9400 Quincy Ave., Cleveland, Ohio 44106
Carling Brewing Company, 1201 West "E" Street, Belleville, Illinois 62221
Carnation Company, 5045 Wilshire Boulevard, Los Angeles, California 90036
Central Connecticut Coop. Farmers Assn., Inc., Box V, Buckland Station, 10 Apel Place, Manchester, Connecticut 06040
Central Soya, 1300 Fort Wayne Bank Building, Fort Wayne, Indiana
Champion Valley Farms, Inc., P.O. Box 391, Camden, New Jersey 08101
Chardone Corporation, P.O. Box 536, 2110 Northern Boulevard, Manhasset, Long Island, New York 11030
Chelsea Milling Company, North St., Chelsea, Michigan 48118

Cherry Taylor Flour Mills Ltd., P.O. Box 368, Preston, Ontario, Canada
Clinton Corn Processing Co., P.O. Box 340, Clinton, Iowa 52732
The Coca-Cola Company, Foods Division, P.O. Box 2079, Houston, Texas 77001
CommercialSolvents Corporation, 1331 So. First Street, Terre Haute, Ind. 47808
Corenco Corporation, 525 Woburn St., Tewksbury, Mass. 01876
CPC International Inc., 54 Fulton St., Buffalo, New York 14204

Dawe's Laboratories Inc., 450 State Street, Chicopee Heights, Ill. 60411
Dawnwood Farms, Inc., Wassaic, New York 12592
Delta Pet Products, Inc., 50 Cooper Square, New York, New York 10003
F. Diehl & Son, 180 Linden Street, Wellesley, Mass.
Dow Brewery Ltd., 990 Notre Dame Street, West Montreal, Quebec
The Dow Chemical Company, 2030 Dow Center, Midland, Michigan 48640
E.I. duPont deNemours & Co., 6054 DuPont Building, Wilmington, Del. 19898

Eastman Chemical Products Inc., P.O. Box 431, Kingsport, Tennessee 37662
Eastman Gelatin Corp., 227 Washington St., Peabody, Mass. 01960
Elanco Products Co., P.O. Box 1750, Indianapolis, Indiana 46206
John W. Eshelman & Sons, 1244 North Queen St., Lancaster, Pa. 17604
Essex Co. Co-Op. Farming Assn., Topsfield, Mass. 01983
Evans Milling Co., Inc., 1730 W. Michigan St., Indianapolis, Ind. 46206
John Ewing Co., P.O. Box 188, La Salle, Colorado 80645

Falstaff Brewing Corp., 5050 Oakland Ave., St. Louis, Missouri 63110
Farm Bureau Association, 158 Lexington St., Waltham, Mass. 02154
Farmers Feed Co., 375 Johnson Ave., Brooklyn, New York 11206
Feed Service Corporation, Box 270, Crete, Nebraska 68333
Feeds, Inc., Wrentham, Massachusetts
First National Stores, Inc., 5 Middlesex Ave., Somerville, Mass.02143
Flory Milling Co., North Main St., Bangor, Pennsylvania
The R. T. French Co., 1 Mustard St., Rochester,New York 14609
Fruen Milling Co., Box 3172 Traffic Station, Minneapolis, Minn. 55403

General Foods Corp., 250 North St., White Plains, New York 10602
General Mills Inc., 9200 Wayzata Boulevard, Minneapolis, Minn. 55440
Golden Gem Growers Inc., State Road #19, Umatilla, Florida 32784
Grain Processing Corp., 1600 Oregon St., Muscantine, Iowa 52761
Grand Union Company, 100 Broadway, E. Patterson, New Jersey
The Great A&P Tea Company, Inc., Ann Page Division, Fruitridge Avenue & Locust Street, Terre Haute, Indiana 47808

Hales & Hunter Company, Subsidiary of Cargill Inc., 1200 Northstar Center, Minneapolis, Minnesota 55402
Harilian Pharmaceuticals, 430 W. Putnam Ave., Greenwich, Conn. 06830
Hartz Mountain Products Corp., 50 Cooper St., New York, New York 10003
Hayward Incorporated, Oak Harbor, Ohio 43449
Hess & Clark, Division of Richardson-Merrell Inc., 7th & Orange Streets, Ashland, Ohio 44805
Hi-Acres Concentrate, Inc., P.O. Box 7127, Orlando, Florida 32804
Hi-Life Packing Co., Mfg. for Great A&P Tea Co., 18 South Michigan Ave., Chicago, Illinois 60603
Hoffman-LaRoche Inc., 340 Kingsland Rd., Nutley, New Jersey 07110

H.P.Hood & Sons, Inc., 500 Rutherford Avenue, Boston, Mass.02129
E.C. & W.L. Hopkins, Inc., Greenfield, New Hampshire 03047
Horlicks Corp., 1450 Summit Ave., Racine, Washington 53404
The Hubinger Company, Keokuk, Iowa 52632

Illinois Cereal Mills Inc., 616 South Jefferson Ave., Paris, Ill. 61944
International Bakerage, 3092 Piedmont Rd., Atlanta, Georgia 30305
International Minerals & Chemical Corp., 5401 Old Orchard Road, Skokie, Illinois 60076
International National Multifoods Corp., 1200 Investors Building, Minneapolis, Minnesota 55402
International Salt Company, Clarks Summit, Pennsylvania 18411

I.S. Joseph Company, Inc., 800 Flour Exchange Bldg., Minneapolis, Minn. 55415

Kane Molass Laboratories Inc., Drawer E, Mt. Pulaski, Illinois 62545
Kellogg Company of Canada, Ltd., P.O. Box 5517, London 12, Ontario, Canada
Kellogg Sales Company, 235 Portier Street, Battle Creek, Michigan 49016
H.C. Knoke & Company, 5728 West Roosevelt Rd., Chicago, Illinois 60650
Kraft Foods, Division of Kraftco Corp., 99 Park Avenue, New York,N.Y. 10016
Krause Milling Company, P.O. Box 1156, Milwaukee, Wisconsin 53201
Kuder Citrus Pulp Company, Box 1208, Lake Alfred, Florida 33850

LaCrosse Milling Company, Cochrane, Wisconsin54622
Land O'Lakes Incorporated, 614 McKinley Place, N.E., Minneapolis, Minnesota 55413
Lauhoff Grain Company, Danville, Illinois 61832
Lipman Marine Products, Inc., State Fish Pier, Gloucester, Mass. 01930
Liv-A-Snaps Inc., P.O. Box 3490, St. Paul, Minnesota 55165
Lipton Pet Foods, Inc., 209 New Boston St., Woburn, Mass. 01801
Longlife Fish Food Products, 50 Cooper Square, New York, New York 10003
Lykes Pasco Packing Company, P.O. Box 97, Dade City, Florida 33525

Mackenzie & Winslow Inc., 577 Davol St., Fall River, Mass. 02722
J.J. Jaguet Co., Inc., P.O. Box 3422, Burbank, California 91504
Maple Leaf Mills Company, Ltd., Queens Quay, Toronto, Ontario, Canada
Marlboro Milling Corporation, 50 Brigham Street, Marlboro, Mass. 01752
Marvin Grain & Hardware Company, Inc., 31 Cove Road, South Dartmouth, Mass.02748
Maxon Mills Inc., Wassaic, New York 12592
Mayflower Mills, 931 Leesburg Road, P.O. Box 26, Fort Wayne, Indiana 46801
McCabe Grain Company, Ltd., 409 Grain Exchange Building, Winnipeg, Manitoba
The Mearl Corporation, Broad Cove, Eastport, Maine
The Mennel Milling Company, 128 W. Crocker Street, P.O. Box 806, Fostoria,Ohio
Merck & Company, Inc., Rahway, New Jersey 07065
Merrimack Farmer's Exchange Inc., 18-22 Low Avenue, Concord, New Hampshire 03303
Midwest Solvents Company, Inc., 1300 Main St., Atchinson, Kansas 66002
Milk Specialties, Inc., P.O. Box 278, Dundee, Illinois 60118
Miles Laboratories Inc., Marchall Division/Elkhart Industries, 900-19th Street, Granite City, Illinois 62040
Minerals Pigments & Metals Division, Pfizer Inc., 260 Columbia Street, Adams, Mass.
Jas. F. Morse & Company, 11 Horace St., Somerville, Mass.

Morton Salt Company, 110 N. Wacker Drive, Chicago, Illinois 60606
Mowat, Wilson, & Company, Box 5171, Seven Oaks Street, Detroit, Michigan 48235

National Alfalfa Dehydrating & Milling Company, 6811 West 63rd Street, Overland Park, Kansas 66201
National Biscuit Company, 425 Park Avenue, New York, New York 10022
National Distillers Products Company, Div. of National Distillers & Chemical Corporation, 11750 Chesterdale Rd., Atkinson Square, Cincinnati, Ohio 45246
National Molasses Company, Maryland & Computer Roads, Willow Grove, Pa.19090
National Peanut Corporation, 200 Johnson Avenue, Suffolk, Virginia 23434
National Stock & Chemical Corp., 1515 South Drover Street, Indianapolis, Ind.
New Richmond Foods, A Div. of Domain Industries Inc., 3050 Metro Drive, Minneapolis, Minnesota 55420
Northern Ohio Sugar Company, 1530 Sixteenth Street, Denver, Colorado 80217
The Norwich Pharmacal Company, 17 Eaton Avenue,Norwich, New York 13815

Occidental Chemical Company, Box 1185, Houston, Texas 77001
Oyster Shell Products, P.O. Box 1225, Mobile, Alabama 36601

Pacific Molasses Company, One California Street, San Francisco, Calif. 94111
Peavey Company Flour Mills, Minneapolis, Minnesota 55415
Penick & Ford Ltd., P.O. Box 428, Cedar Rapids, Iowa 52406
Perk Foods Company, 500 North Dearborn Street, Chicago, Illinois 60610
Pfizer Incorporated, 235 East 42nd Street, New York, New York 10017
The Philadelphia Seed Co., Inc., P.O. Box 230, Chemical & Graves Roads, Plymouth Meeting, Pennsylvania 19462
The Pillsbury Company, 608 Second Avenue, South, Minneapolis, Minn. 55402
Pittsburgh Brewing Company, 3340 Liberty Ave., Pittsburgh, Pa. 15201
Point Judith Fishermen's Coop. Assn., Inc., P.O. Box 730, Narragansett, Rhode Island 02882
PPG Industries Inc., 118 Main St., Box 74, Red Wing, Minnesota 55066
Publicker Industries Inc., 1429 Walnut Street, Philadelphia, Pa. 19102

The Quaker Oats Company, The Merchandise Mart Plaza, Chicago, Ill. 60654
The Quaker Oats Company of Canada, Ltd., Quaker Park, Peterborough, Ontario, Canada

Ralston Purina Company, 835 South Eighth Street, St. Louis, Missouri 63188
Roto Salt Co., Box B, Union Springs, New York 13160
Russell Feed Company, RFD #1, Route 6, Andover, Conn. 06232

Wolf Savitsky & Sons, Inc., Foot of White St., Shelton, Conn. 06484
Schenley Distillers, Inc., 888 Seventh Ave., New York, New York 10019
Seaboard Allied Milling Corporation, 1550 West 29th Street, Kansas City, Mo.
J. E. Seagram & Sons, Inc., 508 W. High St., Lawrenceburg, Indiana 47025
J. Shelabar, Ind., 41 Bank Street, Stamford, Conn. 06901
The Sherwin-Williams Co., P.O. Box 5638, 116 St. Clair Ave., Cleveland, Ohio 44101
J.R. Short Milling Co., Chicago,Illinois

J. R. Short Milling Company, P.O. Box 547, Mt. Vernon, Indiana 47620
Smith-Douglas, Division of Borden Chemical, Borden Inc., P.O. Box 419, Norfolk, Virginia 23501
South of Rocky Mount Inc., P.O. Box 109, Rocky Mount, North Carolina 27801
Southern Fruit Distributors, Inc., P.O. Box 9367, Orlando, Florida 32806
Spencer Kellogg,Division of Textron Inc., 120 Delaware Ave., Buffalo,N.Y.14240
A.E. Staley Manufacturing Co., P. O. Box 151, Decatur, Illinois 62525
Standard Brands, Inc., 625 Madison Avenue, New York, New York 10022
Star-Kist Foods, Inc., 582 Tuna Street, Terminal Island, Calif. 90731
F.W. Stock & Sons, 101 East Bacon Street, Hillsdale, Michigan 49242
Strongheart Products Inc., 165 Branchport Avenue, Long Branch, N.J. 07740
Suni-Citrus Products Co., 208 William-Oliver Building, Atlanta, Georgia 30303
Sunshine Biscuits, Inc., Milling Division, Grafton, Ohio
Superior Pet Products Inc., 321 Summit Street, Boston, Mass.
E.R. Squibb & Sons, Inc., New Brunswick, New Jersey
Swift Edible Oil Company, A Division of Swift & Company, P.O. Box 110, Fostoria, Ohio
Swift Grocery Products Co., 115 W. Jackson Boulevard, Chicago, Ill. 60604

Tater Meal Inc., P.O. Box 413, Presque Isle, Maine

United Coop. Farmers Inc., 339 Broad Street, Fitchburg, Mass. 01420
United States Gypsum Company, 101 So. Wacker Drive, Chicago, Illinois 60606
Universal Grain Company of New Jersey, 425 South Street, Newark,N.J. 07105

Hiram Walker & Sons, Inc., Foot of Edmund Street, Peoria, Illinois 61601
C.P. Washburn Company, Corner Center & Cambridge Street, Middleboro, Mass.
Watkins Salt Co., 518 E. Fourth Street, Watkins Glen, New York 14891
H. K. Webster Company, Inc., P.O. Box 8, Lawrence, Mass.01842
Westgate-California Foods, Inc., 1995 Bay Front, San Diego, Calif. 92112
Wilson's Corn Products Inc., East 4th Street, Rochester,Indiana 46975
Wilson-Sinclair Company, Prudential Plaza, Chicago, Illinois 60601

York Flour Mills, Inc., P.O. Box 2011, York, Pennsylvania 17402

INSPECTION OF COMMERCIAL FEEDSTUFFS 1972

By Feed & Fertilizer Staff -- Report No. 79

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J. Stewart, Technical Assistant
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John Lockman, Technical Assistant
Janice M. Murphy, Senior Clerk/ Stenographer
Elaine S. Brooks, Junior Clerk/Stenographer
***Raymond Bellemare, Inspector

FEED, SEED, FERTILIZER, DIVISION
UNIVERSITY OF MASSACHUSETTS, COLLEGE OF FOOD & NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION, WEST EXPERIMENT STATION
AMHERST, MASSACHUSETTS 01002

*Retired March 1973
**Deceased Jan. 1972
***Transferred to Massachusetts Department of Agriculture, April 1972

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated	
Super Fit'N Fresh	8
Champion	5
Champion AL	2
Agway Milkmore 16 (for cows)	16
Respond	1
Trim	5
Choice	4
Agway Hog Feed Med.	24
Agway Hog Feed	1
Agway Sow Feed	6
Agway 16% Pig Feed Med.	11
Pacemaker Starter (B) Med.	2
Pacemaker Starter (X) Med.	1
Pacemaker Starter	1
Agway Nu-cashmaker 16 Crumble	9
Agway Nu-cashmaker 16 Pellets	11
Agway Nu-cashmaker 16 Mash	5
Agway Nu-cashmaker 16 Bits	8
Agway Nu-Cashmaker 18 Mash	1
Agway Complete Grower Bits	2
Agway Complete Grower Mash	1
Agway Complete Grower Pellets	1
Agway Turkey Breeder Pellets	1
Agway Turkey Finisher Pel.Med.	4
Agway Turkey Grower	10
Agway Calf Grower, Med.	17
Agway Calf Grower	1
Agway Nu-Milkerpels 16	6
Agway Bulky	1
Agway Rabbit Pellets	3
Agway Hi-Cal Pellets	2
Agway 20 Hi-Cal Pellets	5
Agway 16 Hi-Cal Pellets	11
Agway Game & Turkey Grower Me.	12
Agway Game & Turkey Startena Med.	1
Agway Milksaver Med.	1
Agway Milkmaker 16	6
Agway Milkerpels 16	8
Agway Big Red Dog Meal	3
Agway Big Red Rabbit Food Pel.	3
Agway Big Red Special Rabbit Pellets	3
Agway Big Red Shush Pup Dog Food	3
Agway Big Red Puppy Food	1
Agway Mill Queen 16 Pel.	4
Agway Mill Queen 20 Pel.	11
Agway Crunchy 16 Pel.	1
Agway Booster (F) Bits Med.	1
Agway Early Market Lamb Pel.	3
Agway Scratch Grain	1
Agway Crunchy-Dari	3
Agway Crimped Oats with molasses	3
Agway Egg Producer 21	2
Agway Emergency Forage Extender	3
Agway Coarse Scratch	2
Agway Super Test-N.E.	1
Agway 49% Solvent Extracted Soybean Meal	1
Agway Silage Booster 20 Pel.	2
Agway Hi-Ener-G 16 Pel.	4
Agway Pullet Grower 20 Pel.	1
Kasco Professional Formula	4
Agway Pullet Grower 20	1
Agway Fulpail	4
Agway Wheat Bran	3
Agway Beefmix 55% Med.	1
Agway Early Wean "24-20" Med.	1
Agway 40% Mixer Meal	11
Agway Tasti-Flake 16	3
Agway Twenty Dari	3
Agway All Mash Layer	1
Agway All Mash Breeder	1
Agway Hominy Feed	1
Agway Forage Aid Pellets	1
Agway Emergency Livestock	1
Agway Strike Fish Feed	1
Charles River Rat Mouse Formula	1
Agway Solvent Extracted Lineeed Meal	1
Provimilk Calf Replacer Med.	1
Agway Sho-Deo Horse Feed	1
Agway Forage Booster 16	1
Agway Stock Primer	1
Agway All Mash Layer Pel.	1
Agway Bridgewater 16 Dairy	1
Ajax Dog Food Co., Inc.	
Ajax Kibbled Biscuits Dog Food	1

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Allied Mills Inc.	
Wayne Dog Food (Chunky)....	3
Wayne Dog Food Meal Forsum.	1
Wayne Rabbit Pellets	1
Wayne Ruff'N Redi	1
Wayne Dog Food (Bite Size).	3
American Crystal Sugar Company	
Plain Dried Beet Pulp	1
American Cyanamid Company	
Cyrea 45	2
Barber & Bennett Inc.	
Fort Orange Egg Maker Pellets	1
Fort Orange All Mash Grower.	1
Fort Orange Pig & Hog Food..	2
Fort Orange Egg Maker Crumble	1
Fort Orange All Mash Grower..	2
Fort Orange 16% Dairy Ration.	1
Fort Orange Horse Feed	1
Beacon Milling, Div. of Beacon Feeds	
Crimped Oats	1
S-X Super All Mash Egg A	2
"20" Turkey Grower	1
S-X Grow Egg Mash	1
S-X 16% Dairy Ration	1
S-X Horse Feed	1
Cracked Corn (Chunk Size)....	1
S-X 14% Fitting Ration	1
Beacon Hi-Pro Duck Grower....	4
Beacon Golden Test "16"	1
Beacon Lacto-Pels 20	2
Beacon Hy-Pro Mate	1
Bernardston Grain Co., Inc.	
Starter & Grower	3
Excel 16% Dairy Ration	2
Excel Fitting Ration	3
Horse Feed with Molasses	2
Excel Laying Mash	2
Dow Brewers Dried Grains	1
Best Feeds & Farm Supplies Inc.	
Joy Dog Food w/spec. meal ...	1
James P. Brown Co., Inc.	
Browns Best Wild Bird Food ..	1
Brown-Forman Distillers Corp.	
BF Corn Distillers Dried Solubles	2
BF Corn Dried Grains	1
Central Soya & Subsidiaries	
Central Flow Coated 49% Soybean Meal	1
Central Flow Coated 44% Soybean Meal	2
The Coca-Cola Company	
Golden Isle Citrus Pulp...	2
Conlin Ltd.	
Linseed Meal	1
Corenco Corporation	
Meat & Bone Meal	1
CPC International	
Best Foods Pulverized White Oats	1
Best Foods Pulverized Peanut Hearts	1
Dawe's Laboratories Inc.	
Dawe's D.V. Base All Purpose	1
Derby Feed Company	
Special Pigeon Feed	1
Sunflower Seed	2
Conditioning Pigeon Feed...	1
F.Diehl & Son	
Horse Feed	1
Zero Grazing Horse Feed ..	1
Layer	1
Layer Pellets	1
John W. Eshelman & Sons	
Red Rose Pig Pre-Starter Pellets Med.	1
Red Rose Porker	7
Red Rose Sow Meal	2
Red Rose Super Horse Feed.	1
Red Rose Dog Food	1
Red Rose Calf Starter	1

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Maple Leaf Mills Ltd.	
MLM Rex Wheat Bran	1
Marlboro Milling Company	
Dairy No. 68	1
National Starch & Chemical Corp.	
National Corn Gluten Feed	1
Old Mother Hubbard Dog Food Co.	
Kibbled Meal	2
Kibbles Biscuits	1
Ajax Kibbled Biscuits	1
Char-Bone	1
Bone Biscuits	1
The Ogilivie Flour Mills Company	
Ogilivie Wheat Bran	2
Pet Feed Division, B&M Farms	
Bay-MAR B&M Pigeon Feed	1
Pillsbury of Canada Ltd.	
Renoun Wheat Bran	3
Quaker Oats Company	
Ken-L-Ration Med. Kibbled Dog Biscuits	2
Ralston Purina Company	
Purina Lab. Chow	1
Purina Game Bird	1
Purina Game Bird Breeder Layena	4
Purina Game Bird Flight Conditioner	2
Purina Startena Game Bird	3
Purina Commercial Hog Finisher Med.	6
Purina Rabbit Chow Checkers	6
Purina Horse Chow Checkers	6
Purina Goat Chow	2
Purina Dog Chow	5
Purina Dairy Chow (P) 14% (Coarse)	2
Purina Chin Chow Checkers	2
Purina Puppy Chow	3
Purina Trout Chow	5
Purina Milk Chow 16% Checkers	3
Purina Calf Startena (Coarse)	5
Purina Calf Growena (Coarse)	4
Ralston Purina Co. (Cont.)	
Purina Rat Chow	1
Purina Monkey Chow Meal	1
Purina Chick Chow (Coarse)	2
Purina Hen Chow	1
Purina Omolene	4
Purina Cow Chow Special G 20%	1
Purina Cow Chow Special (P) (B) 16% Coarse	7
Purina D&H Chow (Coarse)	5
Purina Cow Chow Concentrate 44% Checkers	6
Purina Mil-Pro 21-30	1
Purina Layena (G)	4
Purina Layena (G) Checkeretts	1
Purina Layena (L) (G) Checkeretts	4
Purina Layena (L) (G) Mash	4
Purina LC Layena Breeder	2
Purina LC Layena Mild-Temp Mash	4
Purina LC Startena Mash	1
Purina LC Grownena Mash	1
Purina Turkey Growena (L) (G) Checkers Med.	5
Purina Turkey Finisher (L) (G) Med.	5
Purina Roughage X-Tender Meal	2
Purina Emergency Roughage X-Tender Meal	1
Purina Fur Maker Mink Chow	3
Purina Golden Bulky (G)	2
Purina Dog Meal	8
Purina Eggena (L) (G) Check.	4
Purina Eggena Mash	1
Purina Protena Hog Feed	2
Purina Pig Growena (G) Med.	2
Purina Protena Hog Feed Complete	2
Purina Cracked Corn	2
Purina Whole Corn	1
Purina 49% Protein Dehulled Solvent Extracted Soybean Meal	1
Purina Chuck Wagon Instant Dinner for Dogs	1
Purina Complete Sow Chow Checkers	1
Purina Dairy Chow	1

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
John W. Eshelman & Sons (Cont.)	
Red Rose Complete Horse Pellets	2
Red Rose Pig Starter Pel. Med.	1
Red Rose Calf Grower	1
Private Blend Dog Food	1
Red Rose 16 Dairy Feed	1
Steamed Flaked Oats	1
Oats	1
Red Rose Dog Nuggets	1
Red Rose Rabbit Pellets	1
Red Rose Laying Mash	1
Red Rose Cat Food	1
Red Rose Scratch Grains	1
Farm Bureau Association	
F.B. Advancer	2
F.B. Rabbit Food Pellets	2
F.B. Milk Replacer	2
F.B. Rabbit Pellets Med.	1
F.B. Complete Producer	8
Scratch Feed	1
F.B. Layer Breeder Mash	2
Dairy 16 Coarse	2
Bran	1
F.B. Horsefare	1
F.B. Dairy 16%	4
F.B. Pig Starter & Grower Med.	3
F.B. Turkey Grower Med.	2
F.B. Dog Food Chunkies	2
F.B. 32% Dairy Supplement Crumbles	2
F.B. Dog Food Meal	1
F.B. Ketosis Control Dairy Med.	2
F.B. Dairy 20%	2
F.B. Calf Grower	2
F.B. Fitting Ration	2
F.B. Corn Meal	1
F.B. Controlled Energy Complete Developer Pel.	2
F.B. Turkey Finisher	3
F.B. Complete Developer	3
F.B. Chick Starter	1
Farmers Feed Company	
Bull Brand Brewers Dried Grains	1
Layer Mash	1
First National Stores	
Burgers	1
Moist Tender Chunks	1
Moist Tender Bits	1
Crunchy	1
Gravy Style Dog Food	1
Flory Milling Company	
Roughage Extender	2
Oats	1
Flory Horse Feed	1
Flory Grow & Egg Complete Large Pellets	1
Flory Cream Line Dry'N Fresh	1
Foremost Foods Inc.	
Pebbles MNC Dried Whey	1
G.D. Poultry Inc.	
Custom Layer 18% Mix	1
S-2 Chicken Feed	1
E.C. & W.L. Hopkins Inc.	
Race Horse Feed	1
Rabbit Pellets	1
International Multifoods Corp.	
Blackhawk Wheat Bran	1
Blackhawk Wheat Red Dog	1
Jaquith & Company	
Coarse 16% Dairy Ration	1
Coarse 18% Dairy Ration	1
Laying Mash	1
I.S. Joseph Company Inc.	
Dried Beet Pulp	1
Knauf & Tesch Company	
Kaytee Racing Pigeon Feed	1
Lipman Marine Products Co.	
Fish Meal	1
O-Mi-O Citrus Pulp	1
Malones Farm & Garden Center	
Ranger Horse Feed	1

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Ralston Purina Company (Cont.)	
Purina Pullet Developer	1
Purina Sow Chow	2
Purina Kit Maker	1
Sherwood Feed Mills Inc.	
Brewers Dried Grains	1
J.R. Short Milling Company	
Sunlite Hominy Feed	1
The Southern Cotton Oil Company, Inc.	
Sco-Co Brand 41% Protein	1
United Co-Op. Farmers Inc.	
UCF Calf Grower	1
All Mash Layer Pellets	6
UCF Starter	2
UCF 16% Dairy	4
UCF 20% Dairy	2
UCF 14% Dairy	2
UCF All Mash Grower	2
UCF Cage Layer 18	6
Wheat Bran	1
UCF Pig & Hog Feed	2
Hominy Feed	1
UCF Rabbit Pellets	1
Ventura Grain Company	
Every-Day Complete Layer 16	3
C.P. Washburn Company	
Made Right Laying Mash	2
Made Right High Energy Layer Mash	2
Made Right Pig Feed	1
Made Right Horse Feed	1
H.K. Webster Company	
Blue Seal Rabbit Pellets	10
Blue Seal Pig Feed Pellets	8
Blue Seal Layer Breeder	17
Blue Seal Lay-Etts	7
Blue Seal Pacer	6
Blue Seal Race Horse Oats	1
Blue Seal Trotter	4
Blox	1
Blue Seal Sweet Crimped Oats	1
Blue Seal Charger	1
Blue Seal CCC Hay Extender	2
H.K. Webster Co., (Cont.)	
Blue Seal Calf Starter	5
Blue Seal Coarse 20 Test Cow Ration	3
Blue Seal Coarse 18 Test Cow Ration	2
Blue Seal Milkers 18 Pellets	1
Blue Seal Grower-Cal	3
Blue Seal Coarse 16 Test Cow Ration	4
Blue Seal Grower-Cal All Mash Growing Ration	7
Blue Seal Milk-Maker 16 Dairy Pellets	7
Blue Seal Milkers 16 Pellets	2
Blue Seal Milk Maker 20 Dairy Pellets	1
Cracked Corn	1
Scratch Feed	1
Flaky-Mix	3
Blue Seal Linseed Meal	1
Lab-Pels	6
Balancer 36 Pels	1
Fat & Finish Pellets	5
Blue Seal A-1 Pigeon Feed	3
Blue Seal Egg Mash	1
Blue Seal Turkeys Growing Ration	6
Blue Seal Coarse 16	2
Blue Seal Coarse 14 Fitting Ration	9
Blue Seal Standard 16 Dairy Ration	4
Blue Seal Standard 20 Dairy Ration	1
Krunchies	3
Krispies	2
All-in-One Dairy Ration	1
Golden Harvest 36 Dairy Pel.	2
Joy Dog Food New Kibbled	1
The Williams Bros. Company	
Kent Wheat Mill Run Bran w/Ground Screenings	1
Wilson Corn Products Inc.	
Wilson Hominy Feed	1

Brands Not Conforming to Guarantees

This table includes brands that are one percent or more under guarantee in protein or fat or are one and one-half percent or more over guarantee in fiber.

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fat Found	Fat Guaranteed	Fiber Found	Fiber Guaranteed
Agway Incorporated						
Agway Booster(F) Bits Med.	16.7**	18.0	---	---	---	---
Agway Mill Queen 16 Pel...	14.5**	16.0	---	---	---	---
Agway Milkerpels 16-NE....	13.8**	16.0	---	---	---	---
Agway Game & Turkey Grower Medicated.....	18.9**	21.0	---	---	---	---
Agway Game & Turkey Grower Medicated.....	19.1**	21.0	---	---	---	---
Agway Game & Turkey Grower Medicated	19.1**	21.0	---	---	---	---
Agway Super Fit'N Fresh ..	13.1**	16.0	---	---	---	---
Agway Calf Grower Med. ...	16.4**	18.0	---	---	---	---
Agway Sow & Pig Supplement Medicated.....	32.3**	36.0	---	---	---	---
Agway Sow & Pig Sup. Med..	32.8**	36.0	---	---	---	---
Agway Sow & Pig Sup. Med..	34.7**	36.0	---	---	---	---
Agway Sow & Pig Sup. Med..	30.8**	36.0	---	---	---	---
Agway 40% Mixer Pellets ...	36.4**	40.0	---	---	---	---
Agway Early Wean "24-20"..	22.5**	24.0	---	---	---	---
Agway Nu-Cashmaker 16 Bits	14.5**	16.0	---	---	---	---
Agway Complete Grower Bits	14.6**	16.0	---	---	---	---
Agway 20 Hi-Cal Pellets ..	16.9**	20.0	---	---	---	---
Agway Big Red Special Rabbit Pellets....	13.8**	15.0	---	---	---	---
Agway Forage Booster	18.8**	20.0	---	---	---	---
Agway Tasti Flake	14.5**	16.0	---	---	---	---
Agway Supmix 36%	34.8**	36.0	---	---	---	---
Agway Turkey Grower Med...	19.0**	21.0	---	---	---	---
Agway Mill Queen 20 Pell..	18.3**	20.0	---	---	---	---
Agway Emergency Livestock.	14.6**	16.0	---	---	---	---
Agway Sow Feed	12.7**	----	---	---	---	---
Barber & Bennett Inc.						
Fort Orange 16% Dairy Ration	14.2**	16.0	---	---	---	---
Fort Orange Egg Maker Crumbles	14.8**	16.0	---	---	---	---
Beacon Milling Company, Inc.						
Beacon 20 Turkey & Game Bird Medicated...	16.4**	20.0	---	---	---	---
Corenco Corporation						
Corenco Meat & Bone Meal..	48.4**	50.0	---	---	---	---

** Deficient Protein

Brands Not Conforming to Guarantees (Cont.)

This table includes brands that are one percent or more under guarantee in protein or fat or are one and one-half percent or more over guarantee in fiber.

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fat Found	Fat Guaranteed	Fiber Found	Fiber Guaranteed
Farm Bureau Association						
FB Turkey Starter Med....	28.5**	30.0	---	---	---	---
FB Chick Starter Mash Med.	17.3**	20.0	---	---	---	---
FB Chick Starter Mash Med.	18.0**	20.0	---	---	---	---
FB Chick Starter Mash Med.	17.5**	20.0	---	---	---	---
FB Hog Supplement	33.1**	36.0	---	---	---	---
FB Hog Supplement	33.7**	36.0	---	---	---	---
FB Pig Starter Med.	16.7**	18.0	---	---	---	---
FB Layer Breeder Mash ...	17.2**	20.0	---	---	---	---
FB Turkey Grower Med. ...	18.8**	20.0	---	---	---	---
Flory Milling Company						
Flory Grow & Egg Complete	14.8**	16.0	---	---	---	---
Flory Bonus 16% Dairy ...	14.4**	16.0	---	---	---	---
Flory Rabbit Pellets	14.0**	17.0	---	---	---	---
Flory Grow & Egg Complete Mash	14.5**	16.0	---	---	---	---
Flory Hog Feed	12.00**	14.0	---	---	---	---
G.D. Poultry Incorporated						
GDP 16% Layer Feed	14.3**	16.0	---	---	---	---
Jaquith & Company						
Horse Feed	10.00**	12.00	---	---	---	---
Jaquith Pelleted Laying Mash	17.5**	19.00	---	---	---	---
Jaquith Coarse 18% Dairy Ration.....	16.7**	18.00	---	---	---	---
Knauf & Tesch Company						
Kaytee Flying Pigeon Feed	15.7**	17.5	---	---	---	---
Marlboro Milling Company						
Breeder Mash	14.1**	16.0	---	---	---	---
Pullet Developer	10.5**	13.5	---	---	---	---
Broiler Finisher	16.2**	22.0	---	---	---	---
Custom Layer	14.2**	18.5	---	---	---	---
Ralston Purina Company						
Purina Cow Chow Special (P) (B) 20% Coarse (G) Meal	18.0**	20.0	---	---	---	---
Purina Game Bird Starter	28.1**	30.0	---	---	---	---
Purina Cow Chow Special (B) 16% Coarse	14.3**	16.0	---	---	---	---

**Deficient Protein

Brands Not Conforming to Guarantees (Cont.)

This table includes brands that are one percent or more under guarantee in protein or fat or are one and one-half percent or more over guarantee in fiber.

Manufacturer & Brand	Protein Found	Protein Guaranteed	Fat Found	Fat Guaranteed	Fiber Found	Fiber Guaranteed
Ralston Purina Company (Cont.)						
Ralston Purina Calf Startena Coarse Medicated....	13.9**	16.0	---	---	---	---
Purina Turkey Growena CR (L)(G) Med.	19.2**	22.0	---	---	---	---
South End Grain Company						
Superior Cage Layer Ration	16.4**	18.0	---	---	---	---
Superior Cage Layer Ration	17.8**	20.0	---	---	---	---
Superior Cage Layer Ration	16.1**	18.0	---	---	---	---
Superior Cage Layer Ration	16.6**	18.0	---	---	---	---
SPECO Company						
Fish Meal	57.3**	60.0	---	---	---	---
United Coop. Farmers Inc.						
UCF Calf Grower Med.	18.4**	20.0	---	---	---	---
UCF Cage Layer 17	15.5**	17.0	---	---	---	---
H.K. Webster Company						
Blue Seal Calf Starter Med.	16.5**	19.0	---	---	---	---

**Deficient Protein

Feeds Containing Drugs and Substantially Complying with Guarantee

Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated	
Agway Sted-A-Milk	1
Agway Roaster Finisher (LBE)	2
Agway Complete Grower (B) Pellets, Med.	3
Agway Pacemaker Starter (B)	4
Agway Complete Grower (B)	3
Agway Game & Turkey Starter (X) Medicated	2
Agway Sentinel Bits Med.	2
Agway Complete Grower (W)	1
Agway Sted-A-Milk Med.	1
Agway Milksaver Med.	1
Agway Squealer Pellets Med.	1
Provimi Provikalf Starter Milk Replacer Med.	3
Provimi Provikalf Grower Milk Replacer Med.	2
Provimi Provikalf Finisher Milk Replacer Med.	1
Agway Broiler Finisher (Z) Pellets, Med.	1
Agway Complete Grower (B) Mash Med.	2
Agway Gro-Mix (B) Med.	1
Agway Turkey Grower Pel. Med.	1
Agway Broiler Starter (Z) Crumbles Med.	1
Agway Defender Bits med.	1
Beacon Feeds Inc.	
Beacon Complete Starter AP	1
Beacon 40% Hog Mixer A Med.	1
Beacon Hi-Energy Hog Finisher	1
Beacon Egg Mate A Med.	1
Beacon Turkey Starter AP Med.	1
Beacon Golden Calf Starter Med.	1
Beacon 15 Pullet Grower Med.	1
Borden Chemical Company, Div. Smith-Douglas Company	
Bordens Feed Supplement Med.	1
Farm Bureau Association	
FB Complete Developer Mash Crumbles Med.	3
Fabu-Sile Silage Additive	1
FB Pig Starter & Grower Med.	3
FB Milk Replacer Med.	1
Hi-M 25 Pellets for Dairy Cattle	1
FB Chick Starter Med.	1
H.P. Hood & Sons	
Hood Milk Replacer Med.	1
Marlboro Milling Company	
Custom Layer Med.	2
Merck Chemical Division, Merck & Co.	
Amprol 25% Med.	1
Norwick Agricultural Products	
Furox 50 Med. Premix	1
Ralston Purina Company	
Purina Chick Startena 20-V Mash Medicated	3
Purina Pig Growena (L) (G) Checkers Med.	6
Purina Turkey Startena MP (G) Checkeretts Med.	6
Purina Nurse-Gro Med.	2
Purina Veal Chow Med.	2
Purina Pig Startena (L) (G) Checkers Med.	2
Purina Game Bird Startena Checkers Med.	1
Purina Turkey Growena CR Checkers Med.	3
Purina Turkey Finisher CR (G) Checkers Med.	4
Purina Rabbit Chow Checkers	1
Purina Farrowing Chow FZ (G) Checkers Med.	1
United Coop. Farmers Inc.	
UCF Calf Grower Med.	1
UCF Starter Med.	4
UCF Cage Starter Med.	1
UCF All Mash Grower Med.	1
Every Day Chick Starter Med.	1
Every Day Complete Grower	1
C.P. Washburn Company	
Made Right Starting Feed	2
Hoffman-Taff Incorporated	
Cage Layer Premix	1
Merck & Company, Merck Chemical Div.	
SQ Med. 40%	1

Feeds Containing Drugs and Substantially Complying with Guarantees (Cont.)

Manufacturer & Brand	Number of Samples Analyzed	Manufacturer & Brand	Numberoof Samples Analyzed
H. K. Webster Company			
Blue Seal Rabbit Pellets NF-SQ Med.	6		
Blue Seal Turkey Starter Crumbles Med.	8		
Blue Seal Chick Starter Med.	8		
Blue Seal Broiler Crumbles Medicated	2		
Blue Seal Turkey Grower Pellets Med.	4		
Blue Seal Milk Replacer Med.	2		
Blue Seal NF-200 Mix Med. ..	1		
Blue Seal Grower-Cal AM Med.	1		
Albers Calf Manna	1		
Diamond Shamrock Chemical Co.			
Wopco - Pak Premix Cage Layer			

Feeds Containing Drugs and Not Conforming to Guarantees

Manufacturer & Brand	Drug	Found	Guaranteed
Agway Incorporated			
Agway Broiler Finisher Medicated	Amprolium	.008**	.0125
Agway Broiler Finisher (Z) Med.	Zoalene	.0055**	.0125
Agway Pacemaker Starter (W) Med.	Amprolium	.0080**	.0125
	Ethopabate	.00025**	.0004
Agway Broiler Finisher (Z) Med.	Zoalene	.0084**	.0125
	Roxazone	.0025**	.005
Barber & Bennett Inc.			
Fort Orange All Mash Turkey Med.	4-Nitrophenylarsonic acid	.0163**	.025
Fort Orange All Mash Turkey Med.	4-Nitrophenylarsonic acid	.0053**	.01875
Beacon Milling Company			
Beacon 20 Turkey Grower 4N Med.	4-Nitrophenylarsonic acid	.0081**	.01875
Commercial Solvents Corp.			
CSC Perma-Mix Cage Layer	Vitamin A	567,500**IU/lb.	1,300,000 USP units/lb.

* Excessive
**Deficient

Feeds Containing Drugs and Not Conforming to Guarantees (Cont.)

Manufacturer & Brand	Drug	Found	Guaranteed
John W. Eshelman & Sons Inc.			
Red Rose Pig Pre-Starter Pellets, Med.	Chlortetracycline ..	62 g/T**	100 g/T
	Penicillin	28 g/T**	50 g/T
Red Rose Pig Pre-Starter Pellets, Med.	Chlortetracycline...	53 g/T**	100 g/T
	Penicillin	29 g/T**	50 g/T
United Coop. Farmers Inc.			
UCF Calf Grower Med....	Chlortetracycline ..	26** g/T	40 g/T
H. K. Webster Company			
Blue Seal Balancer 36%,Pellets Supplement	Vitamin A	4540 IU**/lb.	9,000 IU/lb.

**- Deficient

Vitamins, Drugs, Mineral Mixtures, Supplements, and Premixes Substantially Conforming to Guarantees

Manufacturer & Brand	Number of Samples Analyzed	Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated			
Agway Fortimin CPT with Vitamins	2		
Agway Milksaver w/Vit.	3		
Agway Booster (For chickens)	1		
Agway Pig & Sow Supplement	1		
Albers Milling Company			
Albers Calf Manna	5		
Albers Veal Glo	2		
Albers Suckle	1		
John W. Eshelman & Sons			
Red Rose Hog Supplement	4		
Red Rose Sow Supplement	4		
Foremost Foods Inc.			
Foremost MNC Dried Whey Prod.	1		
Smith-Douglas Div., Borden Chem. Co.			
Feed Supplement	1		
United Coop. Farmers Inc.			
UCF Cage Layer Fortifier	2		
UCF Starter Fortifier	1		
Syntha Laboratories Inc.			
Premix 1-B Vitamin	1		

Alfalfa Meal

Manufacturer & Brand	Protein Found	Protein Guar-anteed	Fiber Found	Fiber Guar-anteed	Carotene Milligrams Per Pound
Keystone Dehydrators Inc.					
Keystone Dehydrators Alfalfa Meal	17.0	17.0	----	----	----
Keystone Dehydrators Alfalfa Super Green ...	17.2	17.0	----	----	----
National Alfalfa Dehydrators & Milling Company					
National 17%Protein Dehydrated Alfalfa Meal	16.5	17.0	----	----	----
National 17% Protein Dehydrated Alfalfa Meal	17.6	17.0	----	----	----
National 17% Protein Dehydrated Alfalfa Meal	17.8	17.0	----	----	----
National 17% Protein Dehydrated Alfalfa Meal	17.9	17.0	----	----	----
Ohio Blenders Inc.					
Big O 20% Dehydrated Alfalfa Pellets	19.6	20.0	----	----	----

FEEDS REGISTERED IN STATE OF MASSACHUSETTS FOR 1972

ADM Processing Co., A Div. of Archer-Daniels-Midland Company, P.O.Box 1470, Decatur, Illinois 62525
Agricultural and Veterinary Products Division Abbott Laboratories, 1400 Sheridan Road, North Chicago, Illinois 60064
Agway Inc., Feed Division, P.O. Box 128, Buffalo, New York 14240
Albers Milling Company, A Division of Carnation Company, 5045 Wilshire Boulevard, Los Angeles, California 90036
Allen Products Company, Inc., R.D. #3, Allentown, Pennsylvania 18001
Allied Chemical Corp., Agricultural Division, P.O.Box 2061 R, Columbia Road, Morristown, New Jersey 07960
Allied Foods, Inc., 1450 Hills Place, N.W., Atlanta, Georgia 30318
Allied Mills, Inc., P.O. Box 459, Libertyville, Illinois 60048
American Crystal Sugar Company, 600 Boston Building, Denver, Colorado 80202
American Cyanamid Company, P.O. Box 400, Princeton, New Jersey 08540
American Maize-Products Company, 250 Park Avenue, New York, New York 10017
Anheuser-Busch, Inc., 721 Pestalozzi Street, St. Louis, Missouri 63118
Animal Nutrition, Inc., 9200 West Main Street, Belleville, Illinois 62223
Aquarium Supply Company, 600 S. 4 Street, Harrison, New Jersey 07029
Archer-Daniels-Midland Company, P.O. Box 1470, Decatur, Illinois 62525
Atlantic Gelatin General Foods Corporation, Hill Street, Woburn, Mass.01801

H. J. Baker & Co., Inc., 360 Lexington Ave., New York, New York 10017
Barber & Bennett, Inc., Box 430, Port of Albany, Albany, New York 12201
Bay State Milling Co., 4700 Prudential Center, Boston, Mass.02199
The Beacon Milling Company, Inc., Cayuga, New York
Beecham Inc., 65 Industrial South, Clifton, New Jersey 07012
Bernardston Grain Co., Bernardston, Mass. 01337
Best Feeds & Farm Supplies, Inc., Oakdale, Pa. 15071
Borden Grain Company, 700 West Water St., Taunton, Mass.
Boston Molasses Company, 920 E. First Street, South Boston, Mass. 02127
Brown-Forman Distillers Corporation, P.O. Box 1080, Louisville, Kentucky
James P. Brown Co., Inc., 310 Franklin St., Worcester, Mass.01604
Bruckmann's Inc., 179 (rear) So. Broadway, Lawrence, Mass. 01843
B & W Canning Company, Inc.,P.O. Box 98, 305 W. Broad St., Groveland, Florida 32736

Cargill, Inc. (Processing & Refining Division), Cargill Building, Minneapolis, Minnesota 55402
Carling Brewing Company, 1143 Worcester St., Natick, Mass.01760
Carnation Company, 5045 Wilshire Boulevard, Los Angeles, Calif. 90266
Chemagro Division of Baychem Corporation, P.O. Box 4913 Hawthorne Road, Kansas City, Missouri 64120
Central Conn. Co-Op. Farmer's Assn., Inc., 10 Apel Place, Box V Buckland Station, Manchester, Conn. 06040
Central Soya, 1300 Fort Wayne Bank Building, Fort Wayne, Indiana 46802
Champion Valley Farms, Inc., P.O. Box 391, Camden, New Jersey 08101
Charbone Corporation, 2110 Northern Blvd., Manhasset, N.Y. 11030
Chelsea Milling Company, North St., Chelsea, Michignn 48118
Cherry Taylor Flour Mills Limited, P.O. Box 368,Preston, Ontario, Canada

The Coca-Cola Company Foods Division, P.O. Box 2070, Houston, Texas 77001
Colby Co-Operative Starch Company, 161 Water St., Drawer "C",Caribou Maine 04736
Commercial Solvents Corporation, 1331 So. First St., Terre Haute, Ind.
Comagra Inc., 615 Cass Street, Owosso, Michigan 48867
The Conklin Limestone Co., Inc., Sand Road, Canaan, Conn. 06018
Corenco Corporation, 525 Woburn Street, Tewksbury, Mass. 01876
CPC International Inc., International Plaza C-2069, Englewood Cliff, New Jersey 07632

Dawe's Laboratories,Inc., 450 State St., Chicago Heights, Illinois 60411
Dawnwood Farms, Inc., Wassaic, New York 12592
Delta Pet Products, 600 S. 4th St., Harrison, New Jersey 070029
Diagnostic Data, Inc., 518 Logue Avenue, Mountain View, California 94040
F. Diehl & Son, Inc., 180 Linden St., Wellesley, Massachusetts
Dow Brewery Limited, 990 Notre Dame St., W.,Montreal, 101, P.Q. Canada
The Dow Chemical Company, 2030 Dow Center, Midland, Michigan 48640
E.I. duPont de Nemours and Company, 6054 Du Pont Building, Wilmington, Delaware 19898

Eastman Chemical Products, Inc., P.O. Box 431, Kingsport, Tennessee 37662
Eastman Gelatin Corporation, 227 Washington St., Peabody, Mass. 01960
Elanco Products Company, A Division of Eli Lilly & Company, P.O. Box1750, Indianapolis, Indiana 46206
Encap Products Company, P.O. Box 278, Prospect, Illinois 60056
John W. Eshelman & Sons, 244 North Queen St., Lancaster, Pa. 17604
Essex County Co-operative Farming Association, Topsfield, Mass.01983
Evans Milling Co., Inc., 1730 W. Michigan St., Indianapolis, Ind. 46206

Falstaff Brewing Corporation- Feed Division, 5050 Oakland Street, St. Louis, Missouri 63110
Farm Bureau Association, 158 Lexington St., Waltham, Mass. 02154
Farmers Feed Company, 375 Johnson Ave., Brooklyn, New York 11206
Feeds Inc., Wrentham, Massachusetts
First National Stores, Inc., 5 Middlesex Avenue, Somerville, Mass. 02143
Flory Milling Company, North Main St., Bangor, Pa.
Fox Pet Foods Inc., East R.R. Blvd., Newfield, N.J. 08344
FMC Corporation, 633 Third Avenue, New York, New York 10017
Foremost Foods Company, One Post Street, San Francisco, California 94104
The R. T. French Company, 1 Mustard Street, Rochester, New York 14609
Fruen Milling Company, Box 3172 Traffic Station, Minneapolis, Minn. 55403

G.D. Poultry Inc., 68 Cambridge Street, Middleboro, Mass.02346
General Foods Corporation (Gaines), 250 North St., White Plains, N.Y. 10625
General Mills Inc., P.O. Box 15003, Minneapolis, Minnesota 55415
The General Store, Inc., 520 S. Pine, Arlington Heights, Ill. 60005
Grain Processing Corporation, 1600 Oregon St., Muscatine, Iowa 52761
The Great Atlantic & Pacific Tea Co., Inc., Ann Page Division, Fruitridge Ave., & Locust Streets, Terre Haute, Indiana 47808
Growers Chemical Corporation, Milan, Ohio 44846

Harilian Pharmaceuticals, 430 West Putnam Ave., Greenwich, Conn. 06830
Hartz Mountain Pet Foods, Inc.,700 S. 4th Street, Harrison, New Jersey 07029
Heger Company, 2562 E. 7th Avenue, North St. Paul, Minnesota 55109
Hess & Clark, Div. of Rhodia Sts., 7th & Orange Streets, Ashland, Ohio 44805
Hoffman La Roche Inc., 340 Kingsland St., Nutley, New Jersey 07110
Hi-Life Packing Company (For A&P Products) 18 South Michigan Ave., Chicago, Illinois 60603
H.P. Hood & Sons, Inc., 500 Rutherford Ave., Boston, Mass. 02129
E.C. & W.L. Hopkins Inc., Greenfield, New Hampshire 03047
The Hubinger Company, Keokuk, Iowa 52632

International Bakerage, 3092 Piedmont Road, Atlanta, Georgia 30305
Illinois Cereal Mills, Inc., 620 So. Jefferson Ave., Paris, Illinois 61944
International Minerals & Chemical Corporation, 5401 Old Orchard Rd., Skokie, Illinois 60076
International Multifood Corp., 1200 Investors Building, Minneapolis, Minn.
International Salt Company, Clarks Summit, Pa. 18411
International Stock Food Corporation, 533 Broad St., Waverly, New York 14892

John Ewing Company, P.O. Box 188, LaSalle, Colorado 80645
I.S. Joseph Company, Inc., P.O. Box 19127, Tampa, Florida 33616

Kane Molasses Laboratories, Inc., Drawer E, Mt. Pulaski, Illinois 62548
Keystone Chemurgic Corporation, Route #2, Bethlehem, Pa. 18017
Keystone Dehydrators, R.D. #2, Bethlehem, Pennsylvania 18017
H. C. Knoke & Company, 5728 West Roosevelt Rd., Chicago, Illinois 60650
Kraft Foods, Division of Kraftco Corporation, P.O. Box 1163, Chicago, Ill.
Krause Milling Company, P.O. Box 1156, Milwaukee, Wisconsin 53201
Kuder Citrus Pulp, Box 1208, Lake Alfred, Florida 33850

LaCrosse Milling Co., Cochrane, Wisconsin 54622
Lauhoff Grain Company, Danville, Illinois
Lipman Marine Products Co. Inc., State Fish Pier, Gloucester, Mass.01930
Lipton Pet Foods Inc., 209 New Boston St., Woburn, Mass.01801
Liv-A-Snaps, Inc., P.O. Box 3490, St. Paul, Minnesota 55165
Longlife Fish Food Products, 600 S. 4th Street, Harrison, New Jersey 07029
Lykes Pasco Packing Co., P.O. Box 97, Dade City, Florida 33525

MacKenzie & Winslow Inc., 577 Davol Street, Fall River, Mass. 02722
Maple Leaf Mills Co., Ltd.,-Export Flour Division, Queens Quay, Toronto, Ontario, Canada
Marlboro Milling Corporation, 50 Brigham St., Marlboro, Mass.01752
Marvin Grain & Hardware Co., Inc., 31 Cove Road, So. Dartmouth, Mass.02748
Massachusetts Nurserymen's Association, 715 Boylston St., Boston, Mass.02116
Maxon Mills Inc., Wassaic, New York 12592
Mayflower Mills, 931 Leesburg Road, P.O. Box 26, Fort Wayne, Indiana 46801
The Mearl Corporation, Broad Cove Rd., Eastport, Maine 04631
The Mennel Milling Company, 128 W. Crocker St., P.O. Box 806, Fostoria, Ohio 44830
Merck & Co., Inc., Rahway, New Jersey 07065
Merrimack Farmers' Exchange, Inc., 18-22 Low Ave., Concord, New Hampshire 03301
Morton Salt Company, 110 N. Wacker Drive, Chicago, Illinois 60606
Mowat,Wilson & Co., Box 5171 Seven Oaks Station, Detroit, Michigan 48235

National Grain Ltd., 500-167 Lombard Ave., Winnipeg, Manitoba, Canada R3B OV4
Nabisco, Inc., 425 Park Avenue, New York, New York 10022
National Alfalfa Dehydrating & Milling Co., 6811 West 63rd St., Overland Park, Kansas 66201
National Molasses Company, Blair Mill Road, Willow Grove, Pa. 19090
National Peanut Corporation, 200 Johnson Ave., Suffolk, Virginia 23434
National Starch & Chemical Corp., 1515 So. Drover St., Indianapolis, Ind.
Northern Ohio Sugar Company, 1530 Sixteenth St., Denver, Colorado 80202
Norwich Agricultural Products, Division of Morton-Norwich Products Inc., 17 Eaton Avenue, Norwich, New York 13815

The Ogilvie Flour Mills Company, Limited, 1960 Sun Life Bldg., Montreal,Quebec
Occidental Chemical Co., Box 1185, Houston, Texas 77001
Old Mother Hubbard Dog Food Company, Inc., 143 Tanner Street, P.O. Box 1411, Lowell, Massachusetts 01853
Oyster Shell Products, P.O.Box 1225, Mobile, Alabama 36601

Pacific Molasses Company, One California St., San Francisco, Calif. 94111
Peavey Company Flour Mills, Minneapolis, Minnesota 55415
Penick & Ford, Ltd., P.O. Box 428, Cedar Rapids, Iowa 52406
Perk Foods Co., Inc., 500 No. Dearborn St., Chicago, Illinois 60610
Pfizer Inc., 235 East 42nd Street, New York, New York 10017
The Pillsbury Company, M334 Pillsbury Bldg., 608 Second Avenue, So. Minneapolis, Minnesota 55402
Pittsburgh Brewing Company, 3340 Liberty Ave., Pittsburgh, Pa. 15201
Point Judith by Products, Div. of Point Judith Fishermen's Cooperative Association, Box 730, Narragansett, Rhode Island 02882
The Procter & Gamble Distributing Company, P.O. Box 599, Cincinnati, Ohio 45201
Prost Alfalfa Mill, Box 244, Perryville, Missouri 63775

The Quaker Oats Company, Merchandise Mart Plaza, Long Beach, Calif. 60654

Rachelle Laboratory, Inc., 700 Henry Ford Ave., Long Beach, Calif. 90801
Ralston Purina Co., 835 S. 8th St., St. Louis, Missouri 63188
Roto Salt Company, Inc., Box 421, 118 Monell St., Pen Yan, New York 14527
Rytman Grain Co., Inc., RFD#1, Lebanon, Connecticut 06249

Seaboard Allied Milling Corporation, 1550 West 29th Street, Kansas City, Missouri 64108
Joseph E. Seagram & Sons, Inc., 508 West High St., Lawrenceburg, Indiana
Schenley Distillers, Inc., 888 Seventh Ave., New York, N.Y. 10019
J.R. Short Milling Co., P.O. Box 547, Mt. Vernon, Indiana 47620
Smith-Douglas, Division of Borden Chemical, Borden, Inc., P.O. Box 419, Norfolk, Virginia 23501
The Southern Cotton Oil Co., Inc., P.O. Box 24219, New Orleans,La. 70124
Southern Fruit Distributors, Inc., P.O. Box 8367, Orlando, Florida 32806
Specialized Pet Diets, Inc., 3628 Crenshaw Boulevard, Los Angeles,Calif.
Spencer Kellogg Divison of Textraon Inc., 120 Delaware Ave., Buffalo, New York 14240
E.R. Squibb & Sons, Inc., New Brunswick, New Jersey 08903

A.E. Staley Mfg., Co., P.O. Box 151, Decatur, Illinois 62525
Standard Brands Incorporated, 625 Madison Avenue, New York, New York 10022
Standard Milling Company, 1009 Central, Kansas City, Missouri 64105
Star-Kist Foods, Inc., 582 Tuna Street, Terminal Island, California 90731
Strongheart Products, Inc., 300 South St., 55th St., P.O. Box, Long Branch, New Jersey 07740
Sturdy Dog Food Products Co., Route 12, Oxford, New York
Suni-Citrus Products Company, By: Cocke-Davis & Company, 208 William-Oliver Building, Atlanta, Georgia 30303
Sunny Slope Farms, Inc., R.D. #2, Bath, Pennsylvania 18014
Sunshine Biscuits Inc., Milling Division, 951 Mechanic St., Grafton, Ohio
Superior Pet Products Inc., 321 Summer St., Boston, Mass.02210
Swift Edible Oil Company, A Division of Swift & Co., General Office, Chicago, Illinois

Tater Meal Inc., P.O. Box 413, Presque Isle, Maine

United Co-Operative Farmer, Inc., 339 Broad St., Fitchburg, Mass. 01420
United States Gypsum Company, 101 South Wacker Drive, Chicago, Ill. 60606

Ventura Grain Co., Inc., 148 Longmeadow Rd., Taunton, Mass. 02780

Hiram Walker & Sons, Inc., Foot of Edmond Street, Peoria, Illinois 61601
C.P. Washburn Company, Corner Center and Cambridge St., Middleboro, Mass.
Watkins Salt Company, 518 E. Fourt St., Watkins Glen, New York 01842
H.K. Webster Company, Inc., P.O. Box 8, Lawrence, Mass. 01842
Westgate-California Foods, Inc., 1995 Bay Front, San Diego, Calif. 92112
Wilson's Corn Products Inc.,East Fourth Street, Rochester, Indiana 46975
Wilson-Sinclair Co., Prudential Plaza, Chicago, Illinois 60601
Wolf Savitsky & Sons Inc., Foot of White St., Shelton, Conn. 06484

York Flour Mills Inc., P.O. Box 2011, York, Pennsylvania 17405

INSPECTION OF COMMERCIAL FERTILIZERS AND AGRICULTURAL LIME PRODUCTS FOR THE YEAR OF 1970 --- Report No. 97

By Fertilizer and Feed Staff

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PERTINENT FACTS RELATING TO MASSACHUSETTS FERTILIZER LAW

Commercial Fertilizers

Registration is required annually on January 1.
Registration fee is $8 for each element; nitrogen, phosphoric acid, potash, and magnesia.
Label must show:
- Net weight of fertilizer
- Name, brand or trade mark, and grade
- Name and address of manufacturer
- Guranteed analysis: Nitrogen, available phosphoric acid, water soluble potash. A guarantee of total phosphoric acid may be used instead of available phosphoric acid for bone, untreated phosphoric rock, tankage, dried and pulverized manures, ground seeds, and wood ashes.

Tonnage reports are required semiannually, on January 1 and July 1.

Lime Products

Registration is required annually on January 1.
Registration fee: $12 for each brand.
Label must show:
- Net weight of product.
- Name, brand or trade mark, and form of lime
- Name and address of manufacturer
- Guranteed analysis: calcium oxide, magnesium oxide, carbonates of calcium and magnesium, or calcium sulfate (in gypsum or land plaster)

FERTILIZER TONNAGE

	1969		1970	
	Jan. 1 to June 30	July 1 to Dec.31	Jan. 1 to June 30	July 1 to Dec.31
Mixed Fertilizers	49733	10542	41340	11797
Unmixed Fertilizer Materials	7273	2875	7671	8898
Pulverized Animal Manures	3034	204	3483	451
TOTALS	60040	13621	52494	21146

Tonnage of Mixed Fertilizers, January 1 to December 31, 1969

Grade*	Jan.1 to June 30	July 1 to Dec. 31	Grade*	Jan. 1 to June 30	July 1 to Dec. 31
10-10-10	7764	1857	12-4-8	307	152
5-10-10	6106	601	7-7-7	236	80
10-6-4	5625	1256	0-10-30	227	109
5-10-5	1900	152	8-8-8	184	---
15-10-10	1754	233	20-10-10	151	35
10-20-20	1504	371	25-5-10	89	---
15-15-15	1160	342	16-8-8	85	33
6-8-8	1069	---	0-15-30	60	247
10-20-10	692	172	0-25-25	53	---
8-16-16	647	157	6-24-24	43	8
10-15-15	572	---	20-20-20	55	5
6-10-4	500	---			
6-3-6	483	---	Miscellaneous	18171	4721
20-10-5	346	9	TOTALS	49733	10542

Tonnage of Mixed Fertilizers, January 1 to December 31, 1970

Grade*	Jan.1 to June 30	July 1 to Dec. 31	Grade*	Jan. 1 to June 30	July 1 to Dec. 31
10-10-10	6516	1813	12-4-8	383	165
5-10-10	5210	730	7-7-7	46	26
10-6-4	3662	1327	0-10-30	121	31
5-10-5	1321	160	8-8-8	38	26
15-10-10	1224	164	20-10-10	78	7
10-20-20	1559	460	25-5-10	25	9
15-15-15	890	192	16-8-8	314	18
6-8-8	133	5	0-15-30	85	291
10-20-10	43	190	0-25-25	43	26
8-16-16	563	276	6-24-24	61	94
10-15-15	402	31	20-20-20	5	8
6-10-4	284	20			
6-3-6	364	122	Miscellaneous	17,455	5561
			TOTALS	41,340	11,797

* The grade represents the plant food guarantee and is expressed in the order of nitrogen, available phosphoric acid and potash.

Tonnage of Unmixed Materials, January 1 to December 31, 1969

Materials	Tonnage Jan. 1 to June 30	Tonnage July 1 to Dec. 31
Pulverized Animal Manures	3034	204
Process Tankage & Act. Sewage	1640	1121
Ammonium Nitrate	1549	396
Muriate of Potash	928	360
Superphosphate 20%	745	198
Ammonium Phosphate	713	---
Urea	445	128
Cottonseed Meal	396	115
Bone Meal	296	71
Sulfate of Ammonia	214	133
Nitrate of Soda	131	38
Nitrate Soda-Potash	47	---
Ureaform	33	4
Cyanamid	17	---
Miscellaneous	219	311
TOTALS	10307	3079

Tonnage of Unmixed Materials, January 1 to December 31, 1970

Materials	Tonnage Jan. 1 to June 30	Tonnage July 1 to Dec. 31
Pulverized Animal Manures	3483	451
Misc. Nitrogen Products	75	1813
Process Tankage & Activated Sewage	1469	1267
Ammonium Nitrate	1472	696
Muriate of Potash	1238	523
Superphosphate 20%	329	3157
Superphosphate 46%	---	126
Ammonium Phosphate	967	---
Urea	1203	587
Cottonseed Meal	113	112
Bone Meal	214	131
Sulfate of Ammonia	163	149
Nitrate of Soda	78	38
Nitrate Soda-Potash	51	---
Ureaform	2	85
Cyanamid	9	---
Sulfate of Potash-Magnesia	76	7
Castor Pomace	109	15
Dried Blood	7	1
Nitrate of Potash	39	15
Miscellaneous	57	177
TOTALS	11,154	9,349

Total Tonnage of Fertilizers Sold During the Past Ten Years

1960	83532
1961	78414
1962	79942
1963	89392
1964	94874
1965	92937
1966	87868
1967	79155
1968	70995
1969	73659

EXPLANATION OF TABLE OF ANALYSIS

Guarantee. The plant food guarantee or the grade of each fertilizer is made a part of the trade name under the heading, "Name of Manufacturer and Brand", and is expressed as nitrogen, available phosphoric acid, and water soluble potash, in that order.

Mixture Substantially Complying with the Guarantee. In addition to those fertilizers that meet their guarantees in every respect, this table includes also a list of those mixtures that have one or more elements below the guaranteed percentage but have a shortage of less $1 per ton.

This table, in addition to the data mentioned in the next paragraph, contains only results of analytical tests pertaining to the average amount of water insoluble nitrogen present in some brands, since this information is of value to tobacco growers and other users of fertilizers containing a high percentage of this form of nitrogen. When no water insoluble nitrogen value is given it does not mean product contains no water insoluble nitrogen. It means no determination was made for such nitrogen.

Potash Forms. Tests for chlorine are made only on tobacco mixtures and on those fertilizers that carry a guarantee of potash in forms other than muriate. When the amount of chlorine present in any brand exceeds the tolerance allowed for that brand, this fact is indicated by a footnote.

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)	Approximate Commercial Shortage Per Ton
Agrico Chemical Co.					
Agrico 15-15-15	---	14.2**	13.3**	14.3**	$ 6.50
Agrico Homestead Custom Lawn Food 20-10-5	4.2	W.T.*	8.6**	W.T.*	4.20
Agrico Plant Food 16-16-16	---	16.0	11.76**	16.1	8.48
Agrico Plant Food 10-20-10	---	9.3**	17.8**	10.0	6.50
AAPlant Food 10-6-4	---	9.3**	5.3**	5.2	2.30
Agrico Lawn & Garden All Purpose Plant Food 10-6-4	---	8.7	5.7	3.9	4.60
Agrico Plowdown 20-10-10	---	W.T.*	8.5**	10.7	3.50
Agrico 10-20-20	---	9.0**	18.0**	20.7	5.37
Corenco Corporation					
Corenco 0-15-30	---	---	24.20	20.8**	---
Farm Bureau Association					
Farm Bureau Dry Granular 15-10-10	---	13.0**	10.8	10.5	3.90
Federal Chemical Co.					
Queen Turf Lawn Food 20-10-5	1.9	17.8**	10.6	6.7	3.70
Frost & Higgins					
Special Organic Fertilizer 8-6-4	2.0	7.5	6.1	2.9**	2.40
Hercules Powder Co.					
Nitroform Lawn Fertilizer Blue Chip 38-0-0	26.5	35.9**	---	---	6.30
Kerr McGee Chemical Co.					
KM Plant Food 8-16-16	---	7.4**	15.6	13.6**	5.00
KM Plant Food 8-16-16	---	7.6	14.1**	14.6**	6.40

*Within Tolerance
**Deficient

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES - Cont.

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)	Approximate Commercial Shortage Per Ton
Lebanon Chemical Co.					
Lebanon 10-20-20	---	9.5	19.1**	17.8**	5.50
Mass. Nurserymens Assn.					
MNA Turf-Kleen 20-10-5	---	18.8**	9.7	5.4	3.80
Old Fox Agricultural Sales					
Old Fox Fert. 15-15-15	---	13.3**	14.6	14.2	6.70
Old Fox Fert. 0-15-30	---	----	12.7**	35.7	----
Old Fox Fert. 4-16-20	---	3.9	14.2**	19.1	4.80
Sears, Roebuck & Co.					
Sears Turf & Plant Food 16-8-8	---	14.8**	7.3	8.5	4.50
USS Agri-Chemicals Inc.					
Vertagreen Double Duty Fertilizer 20-10-5	---	20.1	8.0**	5.3	3.40
Winslow Nurseries Inc.					
Winslow Green Valley Weed & Feed 20-10-5	---	18.6**	10.2	5.6	3.20

* Within Tolerance
** Deficient

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES

Manufacturer & Brand	Number of Sample Analyzed	Average Percentage of Water Insoluble Nitrogen
Agrico Chemical Company		
AA Quality 8-16-16	1	---
Plantation Lawn Food 20-10-5	1	3.9
Plantation Lawn Food 10-6-4	1	---
Agrico 15-15-15	1	---
Agrico Homestead 20-10-5	1	---
Agrico Homestead Lawn Food 10-6-4	1	3.6
Agrico Homestead Custom Lawn Food 20-10-5	1	4.2
Agrico Plant Food 16-16-16	1	---
Agrico Plant Food 10-20-10	1	---
Agrico Homestead Farm Style Multifood 5-10-5	1	---
Agrico for Seeding Down 6-24-24	1	---
AA Plant Food 10-6-4	1	---
Agrico Plow Down 20-10-10	2	---
Agrico Plant Food 15-15-15	2	---
Agrico Evergreen Fertilizer 10-8-8	1	---
Agrico Turf Food 10-6-4	1	3.0
Agrico Rose Food 8-8-8	1	1.4
Agrico Garden & Lawn 8-16-8	1	---
Agrinite Plant Food 7-0-0	1	9.0
Agrico Country Club 12-4-8	1	3.7
Agrico Plant Food 6-12-12	1	---
Agrico Homestead Weed & Feed 10-6-4	1	---
Agrico Weed Control 10-6-4	1	---
Agrico AA Plant Food 5-10-5	1	---
Agrico Lawn & Garden All Purpose Plant Food 10-6-4	1	---
Agrico Plant Food 10-10-10	1	---
Agrico Plant Food 10-15-15	1	----
Agrico Plant Food 10-20-20	1	---
AA Quality 15-10-10	1	---
Agrico 10-20-20	2	---
Agrico 10-10-10	3	---
Agway Incorporated		
Agway Plant Food 10-8-20	1	---
Agway Free Flow 0-15-30	1	---
Start'N Gro 16-32-16	1	---
Squire Applegate Turfood 10-6-4	1	1.7
Agway Ferti-Flow 12-24-12	1	---
Agway Turfood Regular 10-6-4	2	---
Agway Organic Plant Food 5-4-0	1	5.0
Pro Green Turf Fertilizer 16-8-8	1	5.9
Agway Ferti Flow 15-15-15	1	---
Agway Ferti Flow 10-20-10	1	---
Agway Evergreen Plant Food 8-4-4	1	2.8
Agway Ferti Flow 15-8-12	1	---
Agway Improved Weed N Green Turfood & Weed Control Killer 10-6-4	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Sample Analyzed	Average Percentage of Water Insoluble Nitrogen
Agway, Inc., Cont.		
Agway Ferti Flow 10-20-20	1	---
Agway Professional 12-4-8	1	4.2
Agway Greenlawn 10-5-5	1	---
Agway Free Flow 0-10-30	1	---
Agway Free Flow 5-20-20	1	---
Agway Ferti Flow 18-46-0	1	----
Agway Ferti Flow 15-15-15	1	---
Agway Garden Plant Food 5-10-5	1	---
Agway Turfood with Crabgrass Killer 10-6-4	1	---
Agway Free Flow 0-13-39	1	---
Agway Corn Starter 10-20-10	1	---
Agway Free Flow 10-10-10	1	---
Agway Turfood Special 10-6-4	1	---
Agway 5-10-10	1	---
Agway Ferti Flow 15-8-12	1	---
Chevron Chemical Company		
Ortho Unipel 16-16-16	1	---
Ortho Unipel 20-10-10	1	---
Ortho Unipel Starter Special 13-34-10	1	---
Ortho Gro Lawn Food Plus Iron 22-4-4	1	---
Chesnicka Landscape Nursery		
Chesnicka Sod Builder 9-7-4	2	---
Comark Corporation		
Squire Applegate Turfood & Crabgrass Killer 8-6-4	1	---
Squire Applegate Pro-Green Granular Turf Fertilizer 16-8-8	1	6.5
Corenco Corporation		
Corenco Rose Food 6-10-4	2	---
Corenco Granuflo 15-15-15	1	---
Corenco Granuflo 15-10-10	1	---
Corenco Perfection Tobacco 6-3-6	1	---
Corenco Granuflo 0-20-20	1	---
Corenco Pro Grass Turf Food 10-6-4	1	---
Corenco Granuflo 10-20-20	1	---
Corenco Weed B Done 18-3-5	1	---

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage Of Water Insoluble Nitrogen
Corenco Corporation-Cont.		
Corenco One Twenty Three Crabgrass Preventer & Weed Control 10-6-4	1	2.0
Corenco Granuflo 8-12-12	1	---
Gold Seal Lawn Food 20-10-5	1	---
Corenco Gold Lawn Trees 10-6-4	1	.03
Corenco Rhodo-Azalea 7-7-7	1	---
Corenco Timberline Tree Food 10-8-2	1	3.3
Corenco Organic Turf 5-5-0	1	---
Corenco Home Garden All Purpose Fertilizer 5-10-5	1	---
Corenco Granuflo Fertilizer 0-15-30	1	---
Corenco Granuflo 5-10-5	1	---
Corenco Granuflo 10-10-10	1	---
Corenco Granuflo 5-10-10	1	---
Corenco Granuflo 10-6-4	1	---
Corenco Granuflo 8-16-16	1	---
Luzerne All Purpose Plant Food 5-10-5	1	---
Luzerne Lawn Food 10-6-4	1	---
Corenco Turf Green 8-6-4	1	3.3
Corenco 0-15-30	4	---
Corenco 10-10-10	6	---
Corenco 8-6-2	4	---
Corenco 10-20-20	2	---
Elanco Products Incorporated		
Greenfield 2-Way Green Power 24-6-6	1	4.1
Faesy & Besthoff Incorporated		
F&B Evergreen Food 7-7-7	1	---
Farm Bureau Association		
Liquid Fabu-Gro 18-9-9	1	---
F.B. Poly N 10-34-0	1	---
F.B. Fabu Gro 12-6-6	1	---
F.B. Fabu Gro 10-10-10	1	---
F.B. Estate Fertilizer Organic "100" 5-5-0	2	5.7
F.B. Plant Food 5-10-10	1	---
F.B. Plant Food 7-14-14	1	---
F.B. Dry Granular 15-10-10	1	---
F.B. Top Crop 5-10-10	1	---
F.B. Top Crop 10-10-10	1	---
F.B. Top Crop 16-8-8	1	---
Estate Lawn & Turf 10-6-4	1	4.0

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Federal Chemical Company		
Queen Turf Imperial Lawn Food 12-4-8	1	3.5
Queen Turf All Purpose 5-10-5	1	---
Queen Turf Quality Chemical Fertilizer 10-6-4	1	---
Queen Turf Lightweight Organic Lawn Food 20-10-5	1	1.9
Frost & Higgins Company		
Special Organic Fertilizer 8-6-4	1	2.0
Kerr McGee Chemical Company		
KM Plant Food 8-16-16	2	---
Hubbard Hall Turf'n Tree Food 10-6-4	1	4.1
KM Plant Food 0-20-20	1	---
Stewart's Country Green Fertilizer 10-6-4	1	3.3
KM Plant Food 6-3-6	1	---
Lawn Craft Turf Food 10-6-4	1	---
KM Plant Food 5-10-10	1	---
KM Plant Food 10-20-20	1	---
KM 10-10-10	1	---
KM Super Spud 6-8-8	1	---
KM Super Spud 8-12-12	1	---
KM Plant Food 15-10-10	1	---
KM Tobacco 6-3-6	1	---
KM 5-8-30	1	---
KM Plant Food 8-12-12	1	---
Lawn Craft Turf Food 8-6-4	1	---
KM Super Spud 8-10-10	1	---
KM Plant Food 7-7-7	1	---
KM Plant Food 5-10-10	1	---
KM Plant Food 5-10-5	1	---
KM Turf'n Tree Food 10-6-4	1	---
KM Plant Food 10-20-10	1	---
Lebanon Chemical Company		
Lebanon Turf Organic 5-4-0	1	5.7
Lebanon Plant Food 10-20-20	1	---
Lebanon 10-20-20	2	---
Lebanon Azalea & Evergreen Food 6-7-5	1	2.0
Lebanon Fertilizer 5-10-10	1	---
Lebanon Crabgrass Killer & Lawn 10-6-4	1	---
Lebanon Special Mixture 20-0-10	1	6.2
Lebanon Greenskeeper Tree & Shrub 5-10-4	1	0.87
Lebanon Greenskeeper 12-4-8	1	3.8
Lebanon Turf Organic 5-4-0	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
J. D. Lyon, Incorporated		
Old New England 6-8-3	1	3.8
Lyon Pro Grass Turf Food 10-6-4	1	7.2
Lyon Lawn Fertilizer 20-5-10	1	9.6
Massachusetts Nurserymen's Assn.		
MNA Turf Kleen 20-10-5	1	---
MNA Turf O Ganic with Crabgrass Control 10-6-4	1	4.9
Plant O Ganic 8-8-8	1	4.9
MNA Turf O Ganic 10-6-4	1	6.0
MNA Country Gardener 5-10-5	1	---
Nassau Garden Incorporated		
Glorion Deluxe Grass Food 24-8-8	1	4.8
Glorion Deluxe Grass Food 12-8-4	1	4.8
Glorion Weed & Feed 10-6-4	1	---
Old Fox Agricultural Sales Incorporated		
Old Fox 10-20-20	1	---
Old Fox 15-15-15	1	---
Old Fox 15-10-10	1	---
Old Fox 0-15-30	1	---
Old Fox 4-16-20	4	---
Old Fox 10-10-10	1	---
Deerfield Plant Food 5-10-5	1	---
Old Fox Tobacco Fertilizer 6-3-6	1	---
Old Fox 0-10-30	1	---
Old Fox 0-15-30	1	---
Old Fox 4-16-20	1	---
Old Fox 8-16-16	1	---
Old Fox 8-10-10	1	---
Old Fox 8-6-2	2	---
Pennsylvania Dutch Fertilizer Company		
PD Turfood 20-10-5	1	---
O.M. Scott & Sons Company		
Scotts Cope Plus 22-5-5	1	---
Scotts Turf Builder Plus 1 22-5-5	1	8.8
Scotts Super Turf Builder Lawn Fert. 32-5-3	1	---
Scotts Turf Builder Lawn Fert. 16-4-4	1	---
Scotts Halts Plus 16-4-4	1	6.0
Scotts Turf Builder Plus 2 22-5-5	1	---
Scotts Turf Builder 23-7-7	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Sears, Roebuck & Company		
Superfine Lawn Food 25-5-10	1	8.1
Hi Organic Lawn Food 10-6-4	1	2.3
Economy Fertilizer 5-10-5	1	---
Green Karpet Lawn Food 20-10-5	1	---
Sears Superfine Weed & Feed	1	7.3
Sears Turf & Plant Food 16-8-8	1	---
Sears Feed & Weed with 2,4-D 10-6-4	1	---
Sears Crabgrass Killer & Fertilizer 10-6-4	1	---
Stanford Seed Company		
Old English Lawn Food 25-5-10	1	8.1
U.S.S. Agri-Chemicals Company		
USS Vertagreen Turf & Tree 10-6-4	3	5.46
Armour Big Crop 10-10-10	1	---
USS Vertorganic Fertilizer 5-5-0	1	5.0
Vertagreen Double Duty 20-10-5	1	---
Gold Bond Lawn Food 20-10-5	1	---
Armour Tournament Vertagreen 12-4-8	1	---
USS Vertagreen Lawn & Garden 5-10-5	1	---
USS Vertagreen Lawn Plant Food 5-10-10	1	---
USS Vertagreen Lawn Plant Food 6-12-12	1	---
Vertagreen Plant Food 10-10-10	1	---
Agri-Chemicals Big Crop 5-10-10	1	---
Agri-Chemicals Big Crop 10-10-10	1	---
Universal Chemical Company		
Stay Green Lawn Food 8-4-6	1	5.1
Electra Plant Food 5-10-3	1	3.3
Valley Distributing Company		
New England Organic Golf Course 8-6-4	1	2.2
Winslow Nurseries Incorporated		
Winslow Green Valley Weed & Feed 20-10-5	1	---
Winslow Green Valley Turf Food 10-6-4	1	3.5
Winslow Green Valley Turf Food 8-6-2	1	2.0
Winslow Green Valley Turf Food 22-6-6	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES -Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage Of Water Insoluble Nitrogen
Woodworth-Bradley Incorporated		
Blue Chip Golco 75% Organic Grass Fertilizer 10-6-4	1	4.2
Chlordane Golco 40% Organic 8-6-4	1	.11

NITROGEN COMPOUNDS

Manufacturer & Brand	Nitrogen Found	Nitrogen Guaranteed
Agrico Chemical Company		
Agrinite 7%N	10.4	7.
Agway, Incorporated		
Sulfate of Ammonia	20.6	21.
Agway 33½N	33.8	33.5
Agway U-45 Urea 45%	45.8	45.
Allied Chemical Corporation		
Arcadian Ammonium Nitrate 33.5%	34.2	33.5
Arcadian Urea "45"	45.6	45.
American Cyanamid Company		
Aero Cyanamid Granular 20.5%	W.T.*	20.5
Aero Urea Coated Prilled 46%	46.5	46.
Aero Prills Ammonium Nitrate 33½%	33.7	33.5
Aero Urea Prilled 45%N	45.9	45.
Chilean Nitrate Sales Corporation		
Chilean Nitrate of Soda 15%N	15.0	15.
Chilean Nitrate of Soda 16% N	W.T.*	16.
Corenco Corporation		
Corenco Urea Fertilizer 45%N	45.3	45.
Corenco Sulfate of Ammonia 20.5%N	20.6	20.5
E. I. duPont de Ne Mours, Inc.		
Uramite Urea Form 38%N	W.T*	38.
Faesy & Besthoff Incorporated		
F&B Cottonseed Meal 6%N	6.5	6.
Hercules Powder Company		
Blue Chip Nitroform 38%N	35.9	38.
Sudbury Laboratories		
Unit X 44N	45.3	44.

* Within Tolerance

NITROGEN AND PHOSPHORIC ACID PRODUCTS

Manufacturer & Brand	Total Nitrogen Found	Total Phosphoric Acid Found	Available Phosphoric Acid Found
Agway, Incorporated			
Agway Steamed Bone Meal	1.1	31.6	16.5
Corenco Corporation			
Corenco Bone Meal	2.2	27.84	-----
Faesy & Besthoff Incorporated			
F&B Pure Steamed Bone Meal	1.8	---	15.5
Farm Bureau Association			
Di-Ammonium Phosphate	18.8	---	46.6
FB Steamed Bone Meal	1.8	31.6	16.4
Estate Organic "100"	6.2	---	4.7
Estate Organic "100"	6.5	-----	4.9
Kerr McGee Chemical Company			
Hubbard Hall Bone Meal	1.4	32.8	---
Sears Roebuck & Company			
Steamed Bone Meal	2.4	----	16.3
Sewerage Commission of City of Milwaukee			
Milorganite	6.0	----	4.0
USS Agri-Chemical Company			
Armour Steamed Bone Meal	1.8	32.1	---

SUPERPHOSPHATE AND OTHER PHOSPHATE PRODUCTS

Manufacturer & Brand	Available Phosphoric Acid Found	Available Phosphoric Acid Guaranteed
Agrico Chemical Company		
Agrico Phosphate (& Potash)	11.3	10.
Agway Incorporated		
Agway Triple Superphosphate	46.2	46.
Agway 20-Phos	20.0	20.
Corenco Corporation		
Corenco 20% Superphosphate	20.3	20.
Corenco Superphosphate	21.4	---
20% Superphosphate	21.5	---
Lebanon Chemical Company		
Superphosphate 20%	20.0	20.
Sudbury Laboratories		
Unit Y 44% Phosphoric Acid	46.8	44.

POTASH COMPOUNDS

Manufacturer & Brand	Water Soluble Potash Found	Water Soluble Potash Guaranteed
Agway Incorporated		
Agway Muriate of Potash	59.6	60.
Corenco Corporation		
Muriate of Potash 60%	W.T.*	60.
Muriate of Potash 60%	59.2	60.
Farm Bureau Association		
Muriate of Potash	62.3	62.
Kerr McGee Chemical Corporation		
Muriate of Potash	W.T*	62.
Sudbury Laboratories		
Unit Z Potash	44.4	44.

*Within Tolerance

PULVERIZED ANIMAL MANURES

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash	Organic Matter	Sand and Inert Matter
Kerr McGee Chemical Company					
Hubbard Hall Composted Cow Manure 1-1-1	1.4	1.27	0.70	---	---
Organic Compost Corporation					
Fertilife Cow Manure 1-1-1	W.T.*	W.T.*	W.T.*-	---	---
Relko Incorporated					
Steer Manure 2-1-2	2.6	1.4	1.9	---	---
Sears Roebuck & Company					
Composted Sheep Manure 1-1-1	W.T.*	1.03	1.11	---	---
Composted Cow Manure 1-1-1	1.0	1.1	1.3	---	---
USS Agri-Chemicals Incorporated					
Armour Cattle Manure 2-1-2	1.1	0.8	0.9	---	---
Walker-Gordon Laboratories Company					
Bovung Dehydrated Cow Manure 2-1-2	2.3	1.3	2.8	---	---

*Within Tolerance

AGRICULTURAL LIME PRODUCTS

Manufacturer & Brand	Calcium Oxide (CaO) Found	Calcium Oxide (CaO) Guaranteed	Magnesium Oxide (MgO) Found	Magnesium Oxide (MgO) Guaranteed	Neutralizing Value Expressed in Terms of Calcium Oxide (%)	Mechanicl Analysis (%) Coarser Than 20-Mesh	Mechanicl Analysis (%) Finer Than 100-Mesh
Conklin Limestone Company							
Lawn & Garden Dolomite Limestone	26.3	28.	19.1	18.	---	---	---
Lee Lime Incorporated							
Lee Calmag Limestone	40.9	40.	7.4	7.5	---	---	---
Tobey Agra Hydrated	37.5	35.	25.1	25.	---	---	---
Lee Double Strength	41.7	43.	27.7	28.	---	---	---
Lee Lawn & Garden	29.8	30.	20.1	20.	---	---	---
Lee Hi Mag Limestone	30.5	30.	20.1	20.	---	---	---
United Coop. Farmers Inc.							
Lime Crest Brand	42.8	---	5.9	---	---	---	---
Pfizer & Company Inc.							
Limestone For Greener Gardens, Lawns	51.0	50.	0.64	---	---	---	---
Nelco High Calcium Hydrated Lime	70.0	70.	0.56	0.50	---	---	---
Nelco Agricultural Hydrated Lime	71.6	70.	0.51	0.50	---	---	---

DIRECTORY OF MANUFACTURERS WHO REGISTERED FERTILIZERS FOR SALE IN MASSACHUSETTS FOR 1970

Agway, Incorporated, Box 1333, Syracuse, New York 13201
Agrico Chemical Co., Division of Continental Oil,174 Forbes Rd.,Braintree,Mass.
Agriform International Chemicals, Inc., 37650 Sycamore St., P.O. Box 323, Newark, California 94560
Agricultural Products Co., 589 Atwells Ave., Providence, Rhode Island 02909
Alfco Rokeby Co.,Inc., 2nd & Clair Streets, Marietta, Ohio 45750
Allied Chemical Corporation, Agricultural Division, 40 Rector St.,New York,N.Y.
American Cyanamid Company,P.O. Box 400, Princeton, New Jersey 08540
Atlas Fish Fertilizer Co., 1015 O'Brien Drive, Menlo Park, California 94025
Asgrow Mandeville Co., Subsidiary of UpJohn Co., 15 West Main St., Cambridge,New York 12816

The F. A. Bartlett Tree Expert Co., 2770 Summer St., Stamford, Conn. 06905
Bonide Chemical Co., Inc., 382 N. Genesee St., Utica, New York 13502
Boyel-Midway Inc., 685 Third Avenue, New York, New York

Central Chemical Corporation, 49 North Jonathan St., Hagerstown, Maryland 21740
The Chem Industrial Co., 3784 Ridge Rd., Brooklyn, Ohio 44144
Chesnicka Landscape Nursery Inc., 67 Apremont Way, Westfield, Mass.
Chevron Chemical Co., Ortho Division, 940 Hensley, Richmond, California 94804
Chilean Nitrate Sales Corporation, 120 Broadway, New York, New York 10005
Clinton Nursery Products Inc., Boston Post Rd., Clinton, Conn. 06413
Corenco Corporation, 525 Woburn St., Tewksbury, Mass. 01876

The Davey Tree Expert Company, 117 South Water Street, Kent, Ohio 44240
E.I. Du Pont de Nemours & Co., 6054 Du Pont Building, Wilmington, Delaware 19898

Elanco Products Co., A Division of Eli Lilly & Co., P.O. Box 1750, Indianapolis, Indiana 46206
Encap Products Company, P.O. Box 278, Mt. Prospect, Illinois 60056

Faesy & Besthoff Inc., 143 River Rd., Edgewater, New Jersey 07020
Federal Chemical Company, Cranbury, New Jersey 08512
Federal Chemical Company, 646 Starks Building, Louisville, Kentucky 40202
The Fer-Mel Corporation, 304 Main Street, Wethersfield, Conn. 06109
Farm Bureau Assn., 158 Lexington St., Waltham, Mass.
The Frost & Higgins Co., 2 Wheeler Rd., Burlington, Mass. 01803

W. R. Grace & Co., Agricultural Products Division, 101 N. Charles St., Baltimore, Maryland 21203
The Great Atlantic & Pacific Tea Co., Inc., 420 Lexington Ave., N.Y.,N.Y. 10017

The Chas. C. Hart Seed Co., P.O. Box 169, Wethersfield, Conn. 06109
Hercules Incorporated, 910 Market St., Wilmington, Delaware 19899
Heritage House Products, A Unit of Diamond Shamrock Corp., 200 Union Commerce Building, Cleveland, Ohio 44115
A.H. Hoffman, Inc.,P.O. Box 8, Landisville, Pennsylvania 17538
The Hy-Trous Corporation, 502 Statler Building, Boston, Mass. 02116
Hydroponic Chemical Co., Inc., P.O. Box 97-C, Copley, Ohio 44321

ICI America Incorporated, 151 South Street, Stamford, Connecticut 06904
Independence Hall Seed Company, 2700 Wilmarco Avenue, Baltimore, Maryland 21223

Kerr-McGee Chemical Corporation, Kerr-McGee Building, Oklahoma City, Okla. 73125

Lawn Medic Inc., 1024 Sibley Tower Bldg., Rochester, New York 14604
Lebanon Chemical Corporation, P.O. Box 180, Lebanon, Pennsylvania 17042
Leffingwell Chemical Company, Div. of Thompson-Hayward Chemical Co., P.O.Box 188, 111 So. Berry St., Brea, California 92621
J.D.Lyon, Inc., 143 Alewife Brook Parkway, Cambridge, Mass.
Lofts Pedigreed Seed Inc., Chimney Rock Road, Bound Brook, New Jersey 08805
Loncala Phosphate Company, P.O. Box 766, High Springs, Florida 32643

Massachusetts Nurserymen's Association,Inc., Room 504, 755 Boylston St., Boston, Massachusetts 02216
Monsanto Company, 800 N. Lindbergh St., St. Louis, Missouri 63166

Na-Churs Plant Food Ltd., P.O. Box 847, London, Ontario, Canada
Natural Plant Food Co., P.O. Box 2501, Oklahoma Stockyard Station, Oklahoma
Nassau Garden Inc., 366 North Broadway, Jericho, New York 11753
The Natural Development Co., Box 215, Bainbridge, Pennsylvania 17502
New Plant Life, 1603 So. Michigan Ave., Chicago, Illinois 60616

Old Fox Agricultural Sales, 66 Valley Street, East Providence, Rhode Island 02914
Organic Compost Corporation of Pennsylvania, Box70, Oxford, Pennsylvania 19363
Osrow Products Co., Inc., Hazel Street, Glen Cove, New York 11543

Patco Division, Stanford Seed Co., Box 230, Plymouth Meeting, Penn. 19462
Pax Company, 580 West 13 th St., Salt Lake City, Utah 84115
Pennsylvania Dutch Fertilizer Co., P.O. Box 180,Lebanon, Pennsylvania 17042
Robert B. Peters Company, Inc., 2833 Pennsylvania St., Allentown, Pennsylvania
Plant Products Corp., Kennedy Avenue, Blue Point, New York 11715
Plantabbs Corp., Timonium, Maryland 21093

RA-Pid-Gro Corporation, 88 Ossian Street, Dansville, New York
Relko Inc., 214-216 West Third, Amarillo, Texas 79101
Rhodia, Inc., Chipman Division, 120 Jersey Avenue, P.O. Box 2009, New Brunswick, New Jersey 08903
Ross Daniel's Inc., 1720 Fuller Rd., West Des Moines,Iowa 50265

Schultz Company, 11730 Northline Maryland Heights, St. Louis, Missouri 63043
O.M. Scotts & Sons Co., Marysville, Ohio 43040
S&D Products Inc., P.O. Box 66, Prairie du Chien, Wisconsin 53821
Sewerage Commission of the City of Milwaukee, P.O. Box 2079, Miwaukee, Wisconsin
Sears, Roebuck & Co., Lawn & Garden Dept. 671, 925 South Homan Ave., Chicago, Illinois 60607
Sierra Chemical Co., P.O. Box 275, Newark, California 94560
Silvero Enterprises, Inc., 1021 Maryland Ave., Dolton, Illinois 60419
Smith-Douglas/Division of Borden Chemical, Borden Inc., P.O. Box G, Columbus, Ohio 43203
Spencer Kellogg Division of Textron, Inc., 120 Delaware Ave., New York, N.Y. 14240
Stanford Seed Co., P.O. Box 320, Plymouth Meeting, Pennsylvania 19462
Swift Agricultural Chemical Corp., P.O. Box 3410, Baltimore, Maryland 21226
Swiss Farms Inc., Box "J", Philmont, New York 12565
Southern of Rocky Mount, Inc.,600 Wildinson St., Rocky Mount, North Carolina

C. W. Stuart & Co., 165 E. Union St., Newark, New York 14513
Stern's Garden Products, 404 William Streetn, Geneva, New York 14456
Stim-U-Plant Laboratories, Inc., 2077 Parkwood Ave., Columbus, Ohio 43219
Sudbury Lab.,Inc., 572 Dutton Rd., Sudbury, Mass. 01776

Triple A Mills, 125 Pierce Road, Townsend, Mass. 01469

USS Agri-Chemicals, Division of USS Steel, P.O. Box 349, Rte 130 & Main St., Windsor, New Jersey 08561
Universal Metal Products Division, Leigh Products Inc., 411-64th Ave., Coopersville, Michigan 49404
United States Gypsum Co., 101 South Wacker Drive, Chicago, Illinois 60606

Vaughan's Seed Company, Chimney Rock Road, Building3E, Bound Brook, New Jersey

Walker Gordon Laboratory Co., Plainsboro, New Jersey 08536
Warren's Turf Nursery, 8400 West 111 Street, Palos Park, Illinois 60464
Winslow Nurseries Inc., Route 135, Needham, Mass.

AGRICULTURAL LIME PRODUCTS REGISTERED IN MASSACHUSETTS FOR 1970

The Conklin Limestone Co., Inc., RFD #1, Lincoln, Rhode Island 02865
Lee Lime Corporation, Lee, Massachusetts
Limestone Products Corporation of America, 122 Main St., Newton, New Jersey 07860
Minerals, Pigments & Metals Division, Chas. Pfizer & Co., Inc., 260 Columbia Street, Adams, Mass. 01220
Rockland-Rockport Lime Co., Inc., P.O. Box 449, Rockland, Maine 04841
Vermarco Ground Products, Division of Vermont Marble Co., Proctor, Vermont 05765

INSPECTION OF COMMERCIAL FERTILIZERS AND AGRICULTURAL LIME PRODUCTS FOR YEAR OF 1971 -- Report No. 98

William N. Rice, Acting Department Head
John W. Kuzmeski, Professor
Georgia P. French, Instructor
Ralph M. Morgan, Acting Official Chemist
Edward F. Vlach, Senior Chemist
Paul Korpita, Assistant Chemist
David P. Houle, Sr. Technical Assistant
John Stewart, Technical Assistant
Raymond Bellemare, Inspector
Janice M. Lacinski, Senior Clerk and Stenographer
Elaine S. Brooks, Junior Clerk and Stenographer
Kenneth Pelton, Technical Assistant

PERTINENT FACTS RELATING TO MASSACHUSETTS FERTILIZER LAW

Commercial Fertilizers

Registration is required annually on January 1.
Registration fee is $8 for each element; nitrogen, phosphoric acid, potash, and magnesia.
Label must show:
- Net weight of fertilizer.
- Name, brand or trade mark, and grade
- Guaranteed analysis: Nitrogen, available phosphoric acid, water soluble potash. A guarantee of total phosphoric acid may be used instead of available phosphoric acid for bone, untreated phosphoric rock, tankage, dried and unpulverized manures, ground seeds, and wood ashes.

Tonnage reports are required semiannually, on January 1 and July 1.

Lime Products

Registration if required annually on January 1.
Registration fee: $12 for each brand
Label must show:
- Net weight of product.
- Name, brand or trade mark, and form of lime
- Name and address of manufacturer
- Guaranteed analysis: calcium oxide, magnesium oxide, carbonates of calcium and magnesium, or calcium sulfate (in gypsum or land plaster).

FERTILIZER TONNAGE

	1970		1971	
	Jan. 1 to June 30	July 1 to Dec.30	Jan. 1 to June 30	July 1 to Dec. 31
Mixed Fertilizers	41340	11797	35263	18499
Unmixed Fertilizer Materials	7671	8898	8548	3207
Pulverized Animal Manures	3483	451	4148	684
TOTALS	52494	21146	47959	22390

Tonnage of Mixed Fertilizers, January 1 to December 31,1970

Grade*	Jan. 1 to June 30	July 1 to Dec.30	Grade*	Jan. 1 to June 30	July 1 to Dec. 31
10-10-10	6516	1813	12-4-8	383	165
5-10-10	5210	730	7-7-7	46	26
10-6-4	3662	1327	0-10-30	121	31
5-10-5	1321	160	8-8-8	38	26
15-10-10	1224	164	20-10-10	78	7
10-20-20	1559	460	25-5-10	25	9
15-15-15	890	190	16-8-8	314	18
6-8-8	133	5	0-15-30	85	291
10-20-10	43	190	0-25-25	43	26
8-16-16	563	276	6-24-24	61	94
10-15-15	402	31	20-20-20	5	8
6-10-4	284	20	6-3-6	364	122
			Miscellaneous	17455	5561
			TOTALS	41,340	11,797

Tonnage of Mixed Fertilizers January 1 to December 31, 1971

Grade*	Jan. 1 to June 30	July 1 to Dec. 30	Grade*	Jan. 1 to June 30	July 1 to Dec. 31
10-10-10	4297	3252	12-4-8	361	305
5-10-10	3939	2094	7-7-7	43	21
10-6-4	4174	2076	0-10-30	43	87
5-10-5	1807	839	8-8-8	44	23
15-10-10	364	1022	20-10-10	92	6
10-20-20	1451	817	25-5-10	72	9
15-15-15	1143	483	16-8-8	148	15
6-8-8	155	---	0-15-30	71	95
10-20-10	1479	226	0-25-25	75	44
8-16-16	306	603	6-24-24	71	10
10-15-15	264	3	20-20-20		
6-10-4	295	10	6-3-6	341	357
5-10-4	34	---	8-10-10	648	375
0-20-20	47	72	5-20-20	93	38
0-15-25	32	---	20-10-5	267	8
0-10-40	19	34	22-4-4	---	182
10-5-5	546	66	20-10-15	231	12
20-5-10	---	191	15-8-12	2440	488
22-5-5	720	340	23-7-7	1627	1139
32-5-3	340	184	0-13-39	114	124
			Miscellaneous	7070	2849
			TOTALS	35,263	18,499

* The grade represents the plant food guarantee and is expressed in the order of nitrogen, available phosphoric acid and potash.

Tonnage of Unmixed Materials, January 1 to December 31,1970

Materials	Tonnage Jan. 1 to June 30	Tonnage July 1 to Dec.31
Pulverized Animal Manures	3483	451
Miscellaneous Nitrogen Products	75	1813
Process Tankage & Activated Sewage	1469	1267
Ammonium Nitrates	1472	696
Muriate of Potash	1238	523
Superphosphate 20%	329	3157
Superphosphate 46%	----	1126
Ammonium Phosphate	967	---
Urea	1203	5887
Cottonseed Meal	113	112
Bone Meal	214	131
Sulfate of Ammonia	163	149
Nitrate of Soda	78	38
Nitrate Soda-Potash	51	---
Ureaform	2	85
Cyanamid	9	----
Sulfate of Potash-Magnesia	76	7
Castor Pomace	109	15
Dried Blood	7	1
Nitrate of Potash	39	15
Miscellaneous	57	177
TOTALS	11,154	9,349

Tonnage of Unmixed Materials, January 1 to December 31,1971

Materials	Tonnage Jan. 1 to June 30	Tonnage July 1 to Dec. 31
Pulverized Animal Manures	4148	684
Miscellaneous Nitrogen Products	----	10
Process Tankage & Activated Sewage	1377	1245
Ammonium Nitrates	1073	241
Muriate of Potash	88	473
Superphosphate 20%	1013	242
Superphosphate 46%	110	126
Ammonium Phosphate	---	139
Sulfate of Potash	1214	---
Urea	1224	243
Cottonseed Meal	479	11
Steamed Bone Meal	234	161
Sulfate of Ammonia	179	226
Nitrate of Soda	171	14
Nitrate of Soda-Potash	57	1
Ureaform	16	22
Cyanamid	26	---
Sulfate of Potash-Magnesia	49	20
Dried Blood	5	8
Nitrate of Potash	----	----
Borate	----	8
Miscellaneous	1129	7
TOTALS	12,696	3,891

Total Tonnage of Fertilizers Sold During The Past Ten Years

1961	78414
1962	79942
1963	89392
1964	94874
1965	92937
1966	87868
1967	79155
1968	70995
1969	73659
1970	73640

EXPLANATION OF TABLE OF ANALYSIS

Guarantee. The plant food guarantee or the grade of each fertilizer is made a part of the trade name under the heading, "Name of Manufacturer and Brand", and is expressed as nitrogen, available phosphoric acid, and water soluble potash, in that order.

Mixture Substantially Complying with the Guarantee. In addition to those fertilizers that meet their guarantees in every respect, this table includes also a list of those mixtures that have one or more elements below the guaranteed percentage but have a shortage of less $1 per ton.

This table, in addition to the data mentioned in the next paragraph, contains only results of analytical tests pertaining to the average amount of water insoluble nitrogen present in some brands, since this information is of value to tobacco growers and other users of fertilizers containing a high percentage of this form of nitrogen. When no water insoluble nitrogen value is given it does not mean product contains no water insoluble nitrogen. It means no determination was made for such nitrogen.

Potash Forms. Tests for chlorine are made only on tobacco mixtures and on those fertilizers that carry a guarantee of potash in forms other than muriate. When the amount of chlorine present in any brand exceeds the tolerance allowed for that brand, this fact is indicated by a footnote.

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)
Agrico Chemical Co.				
Agrico Plant Food 6-24-24	---	6.9	21.7**	---
Agrico Homestead 20-10-5	---	17.4**	9.8	5.3
Agrico For Corn 10-20-20	---	12.4	23.2	12.8**
AA Quality Fert. 8-16-16	---	7.3	14.1**	17.1**
Agrico Grass Food 20-5-10	8.3	20.7	5.8	7.9**
Homestead Farm Style Multi-Food 5-10-5	---	3.7**	7.0	5.0
Agrico ACR Fert. 10-8-8	---	9.8	5.8**	8.3
Agrico Rose Food 8-8-8	---	8.1	5.8**	8.3
Agrico Garden Fert. 8-16-8	---	7.8	14.6**	7.5
Agrico Plant Food 20-10-15	---	18.6**	10.8	16.5
Agrico Plant Food 15-15-15	---	14.3	13.7**	16.7
Agrico Plant Food 6-12-12	---	6.9	13.3	10.5**
Agrico Plant Food 0-10-30	---	---	10.4	26.7**
Agrico Turf Food 10-6-4	---	10.6	4.9**	8.0
Agrico Plant Food 5-10-5	---	5.8	11.1	3.0**
Agrico 0-15-30	---	---	10.6**	32.6
Agway Incorporated				
Agway Free Flow 0-13-39	---	---	15.4	36.7**
Agway Ferti-Flow 10-20-20	---	10.3	20.9	18.8**
Agway Greenlawn 10-5-5	---	8.6**	6.1	5.8
Agway Free Flow 10-10-10	---	12.9	8.8**	9.4
Agway Taterbest 10-5-15	---	9.4	13.8**	14.3
Agway Free Flow 0-13-39	---	---	13.1	36.8**
Agway Ferti Flow 10-20-20	---	10.4	20.8	18.1**
Agway Ferti Flow 15-15-15	---	15.4	17.3	13.8**
Chilean Nitrate Sales Corp.				
Champion Natural Chilean Nitrate of Soda-Potash	---	15.0	12.8**	----

**Deficient

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES - Contd.

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)
Corenco Corporation				
Corenco Granuflo 8-16-16	---	8.1	14.9**	17.2
Corenco Granuflo 0-20-20	---	---	19.1	18.7**
Corenco Granuflo 5-10-10-12	---	5.2	11.2	7.8**
Corenco Granuflo 8-16-16	---	7.8	18.3	12.1**
Corenco Granuflo 0-20-20	---	----	19.5	18.4**
Corenco Granuflo 0-15-30	---	----	19.5	20.7**
Lawn Food 10-6-4	---	6.6**	6.1	2.6**
Cotter & Company				
Tru-Test 10-6-4	---	8.7**	6.7	3.4
Farm Bureau Association				
Farm Bureau Dry Top Crop 10-10-10	---	9.6	8.9**	10.1
The Great Atlantic & Pacific Tea Co.				
Plantation Quality Fert. 10-6-4	---	7.6**	3.7**	4.1
Heritage House Products Co.				
H-H Fortified Lawn Food 21-6-11	---	20.5	4.8**	12.1
Kerr-McGee Chemical Corp.				
K-M Plant Food 5-10-5	---	5.9	8.4**	1.7
K-M Plant Food 8-16-16	---	7.3	14.9**	13.2**
K-M Plant Food 6-3-6	---	5.6	4.0	4.4**
K-M Plant Food 6-3-6	---	6.7	3.6	4.8**
Lebanon Chemical Company				
Greenskeeper Fert. 20-0-10	---	19.2	----	8.9**
Leb. Green Gold 23-7-7	5.3	21.9**	9.1	10.9
Greenskeeper Granular 12-4-8	4.1	10.8**	4.0	7.6
Greenskeeper Granular 20-4-10	---	18.8**	4.9	9.5
Greenskeeper Granular 12-4-8	---	10.6**	6.5	8.4

**Deficient

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES - Cont.

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)
Old Fox Agricultural Sales Co.				
Old Fox Fert. 15-10-10	---	15.3	8.9**	10.6
Old Fox Fert. 10-10-10	---	9.7	7.9**	9.8
Old Fox Fertilizer 5-10-10-	---	5.7	8.4**	11.0
Old Fox Fert. 5-10-5	---	6.1	8.2**	13.3
USS Agri-Chemical Company				
USS Pebble Plant Food 0-15-30	----	----	16.0	27.9**
Armour Big Crop 8-16-16	---	7.9	16.9	14.3**
USS Vertagreen Agric. Plant Food 6-12-12	---	7.7	9.9**	12.4

** Deficient

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES

Manufacturer & Brand	Number of Sample Analyzed	Average Percentage of Water Insoluble Nitrogen
Agrico Chemical Company		
Homestead 10-6-4	2	3.1
Trutest Fert. 20-10-5	1	5.0
Quality Services Product Lawn Food 20-10-5	1	---
Homestead 20-10-5	2	5.0
AA Plant Food 5-10-5	1	---
Homestead Agrico Lawn & Garden 10-6-4	1	---
Agrico Plant Food 10-10-10	2	---
Agrico Plant Food 8-16-8	1	---
Agrico For Plow-Down 20-10-10	1	---
AA Quality Fert. 15-10-10	1	---
Agrico Plant Food 6-24-24	1	---
Agrico Plant Food 6-12-12	1	---
USS Big Crop 5-10-10 Plant Food	1	---
Agrico for Lawns 10-6-4	1	4.2
Agrico Weed Control 10-6-4	1	---
Agrico Country Club Grass Food 16-8-8	1	5.9
Agrico Evergreen 10-6-4 Fertilizer	1	1.7
Agrico Country Club 20-5-10	1	7.5
Agrico Country Club 12-4-8	1	4.1
Agrico Plant Food 15-15-15	1	---
Agrico for Farmstead Seeding Down 6-24-24	1	---
Agrico Plant Food 20-10-15	1	---
Agrico Plant Food 15-10-10	1	---
Agrico Plant Food 10-20-20	1	---
Agrinite Plant Food 7-0-0	1	---
Agrico Country Club 10-6-4	1	---
Agrico 0-15-30	1	---
Agrico 10-20-20	2	---
Agrico 10-10-10	3	---
Agway Incorporated		
Agway Ferti-Flow 15-8-12	2	---
Agway Free Flow 0-10-30	1	---
Agway Ferti-Flow 10-20-20	3	---
Agway Free Flow 5-20-20	4	---
Agway Ferti Flow 12-24-12	1	---
Agway Free Flow 0-13-39	1	---
Agway Free Flow 5-10-10	1	---
Agway Free Flow 10-10-10	2	---
Agway Greenlawn Plus 21-7-7	6	5.7
Agway Turfood Premium 10-6-4	2	3.7
Agway Organic Lawn Food 5-4-0	1	4.7
Agway Improved Weed N'Green Plus Chickweed Killer 10-6-4	3	---

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Agway Inc. (Cont)		
Agway Greenlawn 10-5-5	5	5.5
Agway Turfood Special 10-6-4	6	1.9
Agway Ferti-Flow 15-8-12	6	---
Agway Turfood Regular 10-6-4	3	---
Agway Pro Green Turf Fert. 16-8-8	1	6.1
Agway Ferti-Flow 15-15-15	2	---
Agway Plant Food w/B 0.02 5-10-10	4	---
Agway Evergreen Plant Food 8-4-4	2	3.8
Agway Ferti-Flow 6-24-24	1	---
Agway Special Starter 20-20-20	1	---
Agway Start-N-Gro 16-32-16	1	---
Agway Free Flow 10-10-10	2	---
Agway Greenlawn 5-10-5	1	---
Agway Ferti-Flow 10-10-10	1	---
Agway Turfood w/Crabgrass Killer 10-6-4	3	1.8
Agway Ferti-Flow Corn Starter w/Boron 0.05 10-6-4	3	---
Agway Garden Plant Food 5-10-5	2	---
Agway Ferti-Flow w/Boron 0.02 15-15-15	2	---
Agway Plant Food 5-10-10	2	---
Agway Evergreen Plant Food 8-4-4	1	---
Agway Taterbest 10-15-15	1	---
Atlas Fish Fertilizer Company		
Atlas Fish Emulsion 5-1-1	1	---
Birch-N-Bend Gardens		
B'n B Turf Food 20-10-15	1	6.4
Borden Chemical Company		
Greens & Fairways Organic Fert. 10-0-0	1	---
Caldwell & Jones Inc.		
C&J Plant Food 5-10-5	1	---
Chevron Chemical Company		
Ortho Unipel Starter Special 13-34-10	1	---
Ortho Unipel Fert. 20-10-10	1	---
Ortho Unipel Fert. 16-16-16	1	---
Ortho Fish Emulsion 5-2-2	1	---
Ortho-Gro Weed & Feed Plus Iron 21-4-4	1	---
Ortho General Purpose Plant Food 8-8-8 Pellets	1	---
Ortho Lawn Food Plus Iron 22-4-4	1	---
Ortho Blood Meal 12-0-0	1	12.0
Ortho-Gro Lawn Food 22-4-4	2	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Corenco Corporation		
Corenco Granuflo 15-10-10	2	---
Corenco Pro Grass Turf Food 10-6-4	1	5.1
Corenco Weed-B-Done 18-3-5	1	---
Corenco Fert. 12-4-8	1	3.2
Elanco Products Company		
Greenfield Trebl 16-8-4	1	----
Greenfield Green Power	1	5.0
Espoma Company		
Plant Tone for Lawn 4-3-2	1	4.0
Farm Bureau Association		
Farm Bureau 10-10-10 Top Crop	1	---
FB Top Crop 16-8-8	2	---
FB Estate Fert. 10-6-4	1	---
FB Dry Top Crop 5-10-10	1	---
FB Estage Fert. Lawn & Turf 10-6-4	1	---
The Fer-Mel Corporation		
Fer-Mel Premium 25-12-10	1	---
W. R. Grace & Company		
Magamp Granular 7-40-6	1	---
Magamp with K 7-40-6	1	---
Chas. C. Hart Seed Company		
Hart's Professional Turf Food 20-12-8	1	---
Heritage House Products		
H-H Crabgrass Preventer Plus 2 11-4-7	1	---
H-H Systemic Weed & Feed Plus	2	2.1
H-H Dacthal Plus Three	1	---
H-H Lawn Food	1	3.4
H-H Azalea, Camelia, Gardenia Food	1	---
H-H Rose Food	1	1.1
Hydroponic Chemical Company		
Hydroponic All Purpose Plant Food	1	---
Kerr-McGee Chemical Corporation		
K-M Turf 'N Tree Food 10-6-4	2	3.5
K-M Plant Food 5-10-5	1	2.0
K-M Plant Food 5-10-10	1	---
K-M Plant Food 15-10-10	1	---
K-M Super Spud 8-12-12	1	---
K-M Plant Food 6-3-6	1	---
K-M Super Spud 8-10-10-3	1	---
K-M Super Spud 6-8-8-2	1	---
K-M Plant Food 6-8-8	1	---
K-M Plant Food 10-10-10	1	---

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Lebanon Chemical Company		
Hi-Organic 10-6-4	1	3.9
Pennsylvania Dutch Food for Turf 20-10-5	1	---
Penn. Dutch Turf Food 10-6-4	2	---
Master Weed & Feed 10-6-4	1	---
Lebanon Azalea 6-7-5	1	1.5
Lebanon Plant Food 5-10-5	1	---
Lebanon Fertilizer 10-20-20	1	---
Lebanon Fertilizer 5-10-10-2	1	---
Lebanon Fertilizer 10-20-20	1	---
Lebanon Green Gold 23-7-3	1	---
Greenskeeper Granular 10-6-4	1	---
Greenskeeper Granular 16-8-8	1	---
Massachusetts Nurserymen's Association		
MNA Plant-O-Ganic 8-8-8	1	3.7
MNA Plant-O-Ganic 12-12-12	1	7.5
MNA Turf-O-Ganic 10-6-4	1	4.3
Miller Chemical & Fertilizer Company		
Nutri-Leaf"60" 20-20-20	1	---
Old Deerfield Fertilizer Company		
Deerfield Plant Food 5-10-5	1	---
Deerfield Lawn Food 10-6-4	2	2.1
Old Fox Agricultural Sales Corp.		
Old Fox Turf Food 10-6-4	1	5.3
Old Fox Fertilizer 5-10-10	1	---
Old Fox Turf Granular 10-6-4	2	3.3
Old Fox Fertilizer 0-20-20	1	---
Old Fox Fertilizer 0-15-30	1	---
Old Fox Tobacco Fert. 6-3-6	1	---
Old Fox Fertilizer 15-15-15-	1	---
Old Fox Fertilizer 10-10-10	3	---
Old Fox 8-6-2	3	---
Patco Products		
Patco Lawn Fert. 24-4-6	1	---
Perk-Up Products		
Perk-up Special 10-6-4	1	---
Perk-up Lawn Food 10-6-4	1	---
Perk-up Plant Food 5-10-5	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES -Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
O. M. Scott & Sons		
Scotts Turf Builder 23-7-7	6	8.1
Scotts Halts Plus 20-5-5	3	6.0
Scotts Turf Builder 16-4-4	1	6.0
Scotts Plus Two 22-5-5	2	9.9
Scotts H-P Fertilizer 18-24-6	1	6.2
Scotts Turf Builder Plus Four 16-4-4	1	6.2
Scotts Iron-S	1	---
Scotts Turf Builder 22-5-5	1	7.1
Scotts Super Turf Builder 32-5-3	1	---
Scotts Turf Builder Lawn Fertilizer 22-5-5	1	---
Sears, Roebuck & Company		
Sears Pre-Emerge 10-6-4	1	---
Sears Superfine Weed & Feed 23-4-9	1	8.0
Sears Premium Lawnfood 30-3-6	1	---
Sears GreenKarpet 20-10-5	1	---
Sears Weed & Feed 10-6-4	1	---
Sears Superfine Lawn Food 25-5-10	1	9.4
Sears Rose Food 10-7-5	1	1.2
Stern's Nurseries Incorporated		
Stern's Miracid Soil Acidifier & Plant Food 30-10-10	1	---
Stern's Miracle Gro 18-24-16	1	---
Stern's Miracle Gro 15-30-15	1	---
Stewart's Nursery Incorporated		
Stewart's Country Green 10-6-4	1	3.7
U.S. Borax & Chemical Corporation		
Fertilizer Boarate 65	1	---
United Coop. Farmers		
UCF Grower w/Sq.	1	---
USS Agri-Chemical Company		
USS Vertagreen 5-10-10	3	---
USS Vertagreen 10-6-4	1	2.5
USS Vertagreen 5-10-5	2	---
USS Vertagreen Organic Turf Food 5-5-0	2	4.7
USS Vertagreen Plant Food 5-10-10	1	---
USS Vertagreen Turf & Tree Fert. 10-6-4	4	2.0
USS Lawn & Garden Fertilizer 5-10-5	2	---
USS Vertagreen Organic	1	---
USS Big Crop 8-16-16	1	---

Manufacturer & Brand	Number of Sample Analyzed	Average Percentage of Water Insoluble Nitrogen
USS Agri-Chemical Company (Cont.)		
USS Pebble Plant Food 0-10-30	1	---
USS Big Crop 10-10-10	2	---
USS Vertagreen Agricultural Plant Food 10-10-10	1	---
USS Power Prills Fertilizer 8-32-16	1	---
Armour Vertagreen 6-18-36	1	---
USS Vertagreen Power Prills Plant Food 14-14-14	1	---
USS Vertagreen Tee Green Turf Food 16-4-8	1	---
Armour Vertagreen Power Prills Plant Food 15-40-5	1	---
USS Vertagreen Triple Duty Fertilizer 10-6-4	2	---
USS Vertagreen Tournament Plus Sp. Turf Food 12-4-8	1	---
Gold Bond Multi-Purpose 10-6-4	1	---
USS Pebble Big Crop 10-10-10	1	---
USS Pebble Big Crop 5-10-10	1	---
USS Vertagreen Agric. Plant Food 10-10-10	1	---

NITROGEN COMPOUNDS

Manufacturer & Brand	Nitrogen Found	Nitrogen Guaranteed
Agrico Chemical Company		
Agrico Urea 45-0-0	45.6	45.
Agrico Ammonium Nitrate 33.5-0-0	32.8	33.5
Agway Incorporated		
Agway Ammonium Nitrate 33½N	33.9	33.5
Agway Ammonium Nitrate	33.5	33.8
Agway Ammonium Nitrate	34.3	33.5
Agway U-45	45.4	45.
Agway U-45	45.0	45.
Agway U-45	45.6	45.
Allied Chemical Company		
Arcadian Ammonium Sulfate 21-0-0	21.1	21.
American Cyanamid Company		
Aeroprills Ammonium Nitrate 33.5%	34.0	33.5
Aeroprills Ammonium Nitrate 33.5%	34.0	33.5
Aeroprills Ammonium Nitrate 33.5%	33.7	33.5
Brockville Chemical Industries Ltd.		
Bull's Eye Urea 45-0-0	45.2	45.
Bull's Eye Urea 45-0-0	45.4	45.
Bull's Eye Ammonium Nitrate 34-0-0	34.2	34.
Canadian Industries Ltd.		
C-I-L Ammonium Nitrate 34-0-0	33.9	34.
Chilean Nitrate Sales Company		
Champion Brand 16-0-0	15.9	16.
Champion Brand 16-0-0	16.0	16.
Corenco Corporation		
Corenco Nitroform 38-0-0	38.4	38.
Corenco Sulfate of Ammonia 20.50%	20.1	20.5
E.I. duPont deNemours Company		
Dupont Uramite 38-0-0	37.5	38.
Dupont Nugreen Urea 45-0-0	46.1	45.
Dupont Nugreen 45-0-0	46.0	45.
Faesy & Besthoff Incorporated		
F&B Cottonseed Meal 6-1-1	6.3	6.
Farm Bureau Association		
FB Ammonium Nitrates 33%	34.5	33.

NITROGEN COMPOUNDS (Cont.)

Manufacturer & Brand	Nitrogen Found	Nitrogen Guaranteed
W. R. Grace & Company		
Nitrex Prilled Ammonium Nitrate 33.5%	33.7	33.5
Kerr-McGee Chemical Corporation		
H-H Nitroganic 5-4-0	6.4	5.
H-H Nitroganic 5-4-0	6.9	5.
Lebanon Chemical Corporation		
Greenskeeper Organic Nitrate	18.9	20.
Olin Corporation		
Olin Urea 45-0-0	45.1	45.
Olin Urea 45-0-0	45.1	45.
Southwest Potash Corporation		
K-Nite Potassium Nitrate 13.75-0-44.50	13.8	13.75
USS Agri-Chemical Company		
USS Prilled Ammonium Nitrate 33.5-0-0	34.5	33.5
USS Vertanite Ureaform Fertilizer 38-0-0	38.	38.

NITROGEN AND PHOSPHRIC ACID PRODUCTS

Manufacturer & Brand	Total Nitrogen Found	Total Phosphoric Acid Found	Available Phosphoric Acid Found
Agrico Chemical Company			
Di-Ammonium Phosphate 18-46-0	18.4	---	46.3
Agway Incorporated			
Agway Steamed Bone Meal 1-11-0.....	1.1	27.74	17.12
Agway Di-Ammonium Phosphate	18.3	---	46.2
Balledune Fertilizer Company			
Di-Ammonium Phosphate 18-46-0.....	17.5	---	47.2
Chevron Chemical Company			
Ortho Steamed Bone Meal 2-13-0	4.3	---	15.91
Corenco Corporation			
Corenco Granuphos Fertilizer	6.2	---	11.7
Corenco Bone Meal 1-23-0	2.1	28.57	---
Corenco Bone Meal 1-23-0	2.3	28.36	---
Darling & Company			
Steamed Bone Meal	2.0	29.76	---
Milwaukee Sewerage Commission			
Milorganite 6-3-0	6.2	---	3.5
Milorganite 6-3-0	5.8	---	4.2
Milorganite 6-3-0	6.5	---	3.1
USS Agri-Chemical Company			
USS Steamed Bone Meal 2.3-11-0	3.0	---	14.43
Armour Steamed Bone Meal 2.3-23-0...	W.T.*	31.69	---
Armour Ammonium Phosphate 18-46-0...	17.	---	45.5
Farm Bureau Association			
FB Di-Ammonium Phosphate 18-46-0.....	17.5	---	46.4

W.T.* - Within Tolerance

SUPERPHOSPHATE AND OTHER PHOSPHATE PRODUCTS

Manufacturer & Brand	Available Phosphoric Acid Found	Available Phosphoric Acid Guaranteed
Agrico Chemical Company		
Agrio-Phos Superphosphate	21.8	20.
Triple Superphosphate	45.9	46.
Agway Incorporated		
Agway "20" Phosphorus	19.4	20.
Agway "20" Phosphorus	19.1	20.
Agway "20" Phosphorus	20.1	20.
Triple Phosphate	46.4	46.
Agway "20" Phosphorus	19.8	20.
American Cyanamid Company		
Triple Superphosphate 46%	47.97	46.
Corenco Corporation		
Corenco Superphosphate 20%	20.1	20.
Corenco Superphosphate 20%	20.0	20.
Corenco Superphosphate 20%	21.6	20.
International Minerals & Chemical Company		
Perma-Rock Phosphate 3.0%	4.8	---
Kerr-McGee Chemical Corporation		
K-M 20% superphosphate	19.9	20.
Lebanon Chemical Corporation		
Granulated 20% Superphosphate	19.8	20.

POTASH COMPOUNDS

Manufacturer & Brand	Water Soluble Potash Found	Water Soluble Potash Guaranteed
Agway Incorporated		
Muriate of Potash 0-0-60	W.T.*	60.
Muriate of Potash 0-0-60	59.9	60.
Corenco Corporation		
Muriate of Potash 60%	W.T.*	60.
Muriate of Potash 60%	60.1	60.
International Minerals & Chemicals Company		
Muriate of Potash 0-0-60	59.9	60.
IMC Sulphate of Potash 0-0-50	49.2	50.
U.S. Borax Company		
Coarse 60 Muriate of Potash	W.T.*	60.

W.T.* - Within Tolerance

PULVERIZED ANIMAL MANURES

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash
Agway Incorporated			
Agway Composted Sheep Manure 1-1-1	1.03	1.27	1.26
Composted Cow Manure 1-1-1	1.1	1.28	1.2
Corenco Corporation			
Sheep Manure 1.25-1-2	2.3	1.47	2.1
Sheep Manure	1.8	1.06	2.1
Greenlife Products Company			
Greenlife Cow Manure 2-1-2	1.3	.8	1.4
Relko Incorporated			
Tex-O-Ganic Cow Manure	2.4	2.34	1.9
Tex-O-Ganic Cow Manure	2.3	1.92	1.9
Tex-O-Ganic Cow Manure	2.4	1.86	2.0
Sears, Roebuck & Company			
Composted Cow Manure 1-1-1	1.2	1.35	1.6
Triple-A-Mills Incorporated			
Sure-Gro (Poultry Manure)	4.6	3.98	2.5
USS Agri-Chemical Company			
USS Cattle Manure 1-1-1	1.1	0.9	1.6
USS Cattle Manure 1-1-1	1.1	0.8	1.2
Walker-Gordon Lab. Company			
Dehydrated Cow Manure 2-1-2	2.1	1.44	2.2
Dehydrated Cow Manure 2-1-2	2.1	1.6	2.0

AGRICULTURAL LIME PRODUCTS

Manufacturer & Brand	Calcium Oxide (CaO)		Magnesium Oxide (MgO)	
	Found	Guaranteed	Found	Guaranteed
Conklin Limestone Company Lawn & Garden Ground Limestone	42.5	----	4.4	-----
Jacquith & Company Ground Limestone	42.6	---	7.8	-----
United Freight Ways Limestone	29.7	----	21.1	-----

Directory of Manufacturers Who Registered Fertilizers for Sale in 1971
in the State of Massachusetts -- Also Lime Registrators

Agrico Chemical Co., Div. of Continental Oil Co., 5050 Popular Ave., Memphis, Tennessee 38117
Agricultural Products Co., 589 Atwells Ave., Providence, Rhode Island 02909
Agriform International Chemical Inc., 37650 Sycamore St.,P.O. Box 323, Newark, California
Allied Chemical Company, Box 2061 R, Morristown, New Jersey
Agway Inc., Fertilizer Division, Box 1333, Syracuse,New York 13201
Alfco Rokeby Inc., 2nd St., at St. Clair, Marietta, Ohio 45750
Allied Chemical Co., 40 Rector St., New York, New York 10006
American Cyanamid Co., P.O. Box 400, Princeton, New Jersey 08540
Asgrow Mandeville Co., Subsidiary of UpJohn Co., 15 West Main Street, Cambridge, New York 12811
Atlas Fish Fertilizer Co., 1015 O'Brien Drive, Menlo Park, Calif. 94025

F.A. Bartlett Tree Expert Co., 2770 Summer St., Stamford, Conn. 06905
Bonide Chemical Co., Inc., 382 N. Gennessee St., Utica, New York 13502
Brockville Chemical Industries Ltd., Maitland, Ontario, Canada

Caldwell & Jones Inc., 353 Park Ave., E. Hartford, Conn.
Canadian Industries Ltd., P.O. Box 1900, Courtright, Ontario, Canada
Chevron Chemical Corp., 940 Hensley, Richmond, Calif. 94804
Chilean Nitrate Sales Corp., 120 Broadway, New York, 5, New York 10005
Clinton Nursery Products, Boston Post Rd., Clinton, Conn. 06413
Corenco Corp., 525 Woburn Street, Tewksbury, Mass.01876

Davey Tree Expert Co., 117 So. West St., Kent, Ohio 44240
E.I. duPont deNemours & Co., 6054 DuPont Building, Wilmington, Delaware 19898

Elanco Products Co., Div. of Eli Lilly & Co., Box 1750, Indianapolis, Ind. 46206
The Espoma Co., 6 Espoma Rd., Millsville, New Jersey 08332

Faesy & Besthoff Inc., 143 River Rd., Edgewater, New Jersey 07020
Farm Bureau Association, 158 Lexington St., Waltham, Mass.
Farmers Chemical Co., Inc., P.O. Box 87, Harrison, Tennessee 37341
Federal Chemical Company, 646 Starks Bldg., Louisville 2, Kentucky 40202
Fer-Mel Corporation, 304 Main St., Wethersfield, Conn. 06109
The Frost & Higgins Co., 2 Wheeler Rd., Burlington, Mass.

The Great A&P Tea Co., 420 Lexington Ave., New York, New York 10017
W. R. Grace & Co., Agricultural Prod. Division, 101 N. Charles St., Baltimore, Maryland
Grounds Equip. Co., 33 Boylston Rd., Newton Center, Mass.
Greenlife Products Co., West Point, Virginia 23181

The Charles C. Hart Seed Co., P.O. Box 164, 304 Main St., Wethersfield, Conn.
Hercules Inc., 91 Market St., Wilmington 99, Delaware
Heritage House Products Inc., Sub. of Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland, Ohio 44115
A. H. Hoffman Inc., Landisville, Pennsylvania 17538
Hydroponic Chemical Co., Inc., Box 4300, Copley 21, Ohio 44321
The Hy Trous Corp., 1 Riverside St., Beverly, Mass. 02116'

Independence Hall Seed Company, 2700 Wilmarco Ave., Baltimore, Maryland

Kerr-McGee Chemical Corporation, 111 Kerr Avenue Bldg., Rm. 720, Oklahoma City, Oklahoma

Lawn -A-Mat Chemical & Equipment Corp., c/o Rockland Chemical Company, P.O. Box 204, Caldwell, New Jersey 07006
Lawn Medic Inc., 1024 Sibley Tower Bldg., Rochester, N.Y. 41460
Lebanon Chemical Corporation, Dayton Fertilizer Division, P.O. Box 180, Lebanon, Pennsylvania 17042
Leffingwell Chemical Company, Div. of Thomspson-Hayward Chemical Co., Box 188, 111 So. Berry St., Brea, California 92621
Lofts Pedigreed Seed Co., Inc., Chimney Rock Rd., Bound Brook, N.J. 08805
Loncala Phosphate Co., Box 766, High Springs, Florida 32643
J. D. Lyon, Inc., 143 Alewife Brook Parkway, Cambridge, Mass.02140

Master Specialties Inc., 445 Nixon St., Savage, Minnesota
Minerals, Pigments & Metals Division, Chas. Pfizer & Co., Inc., 260 Columbia Street, Adams, Mass.
Monsanto Chemical Co., 800 North Lindbergh Blvd., St. Louis, Missouri
Miller Chemical & Fertilizer Corp., P.O. Box 333, Hanover, Pa. 17331
Milwaukee Sewerage Commission, City of Milwaukee, P. O. Box 2079, Milwaukee, Wisconsin 53012

The Natural Development Co., Box 205, Bainbridge, Penn. 17502
New Plant Life, Box 45, Laporte, Indiana 46350
Natural Plant Food Co., P. O. Box 82501, Oklahoma City, Oklahoma
Nachurs Plant Food Co., Ltd., P.O. Box 847, London, Ontario, Canada

Old Fox Agricultural Sales Inc., 66 Valley St., E. Providence, R.I. 02914
Olin Corp., P.O. Box 991, Little Rock, ARkansas 72203
Osrow Products Co., Inc., Hazel St., Glen Cove, New York 11542
Organic Compost Corp., Oxford, Pa. 19363

Patco Products Division, Stanford Seed Co., Box 230, Plymouth Meeting, Pa. 19462
Pax Products Co., 580 West 13th South, Salt Lake City, Utah 84115
Robert B. Peters Inc., 2833 Pennsylvania Street, Allentown, Penn.
Plant Products Corp., Kennedy Ave., Blue Point, L.I.., New York
Plantabbs Corp., Timonium, Maryland 21093

Ra-Pid-Gro Corp., 88 Ossian St., Dansville, New York 14438
Relko Inc., 413 E. 3rd St., Box 2645, Amarillo, Texas 79105
Rhodia Inc., Chipman Division, 120 Jersey Ave., New Brunswick, N.J. 08903
Ross Daniels Inc., 115 W.W. 8th St., Des Moines, Iowa 50265

S&D Products Inc., P.O. Box 66, Prairie du Chien, Wisconsin 53821
Schultz Company, 11730 Northline, Maryland Heights, Missouri 63043
O. M. Scott & Sons, Co., Marysville, Ohio 43040
Sears, Roebuck & Co., 925 So. Homan Ave., Dept. 671, Chicago 7, Ill.60607
Sierra Chemical Co., P.O. Box 275, Newark, Calif. 94560
Sivero Enterprises Inc., 1021 Maryland Heights, Dolton, Ill. 60419
Stern's Garden Products Inc., 404 Williams St., Geneva, New York 14456
Stewart's Nursery Inc., Millers Falls Rd., Turners Falls, Mass.
Sudbury Lab., Dutton Rd., Sudbury, Mass. 01776
Swiss Farms Inc., Box J, Philmont, New York 12565
Southwest Potash Corp., 1270 Avenue of America, New York, New York
Smith-Douglas, P.O. Box 419, Norfolk, Virginia 23501

Triple-A-Mills, 125 Pierce Rd., Townsend, Mass.

Universal Metals Prod., Division of Leigh Products Inc., 411-64 th Ave., Coopersville, Michigan 49404
USS Agri-Chemical, Attn: M. V. Moore,Atlanta Technical Center, 685 DeKalb Industrial Way, Decatur, Georgia 30035

Vaughan's Seed Co., Chimney Rock Rd., Bound Brook, New Jersey 08805
Vermarco Ground Products Co., Div. of Vermont Marble Co., Proctor, Vt. 10576

Walker-Gordon Lab., Co., Plainsboro, N.J. 08536
Warren's Turf Nursery, 8400 West 111th St., Palos, Park, Illinois 60464
Winslow Nurseries Inc., 1808 Great Plain Ave., Needham, Mass.02192
Western Auto Supply Co., 685 Starks Bldg., Louisville, Kentucky

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Lime Registration

Conklin Limestone Co., RD #1, Lincoln, Rhode Island 02865
Conklin Limestone Co., Canaan, Conn. 06018
Limestone Products Corp. of America, P.O. Box 490, Newton, New Jersey 07860
Rockland-Rockport Limestone Co., P.O. Box 449, Rockland, Maine 04841

INSPECTION OF COMMERCIAL FERTILIZERS AND AGRICULTURAL LIME PRODUCTS FOR YEAR OF 1972 -- Report No. 99

William N. Rice, Acting Department Head
@ John W. Kuzmeski, Professor
Georgia P. French, Instructor
Ralph M. Morgan, Acting Official Chemist
Edward F. Vlach, Senior Chemist
Paul Korpita, Assistant Chemist
David P. Houle, Senior Technical Assistant
John Stewart, Jr. Technical Assistant
*Raymond Bellemare, Inspector
Janice M. Murphy, Senior Clerk and Stenographer
Elaine S. Brooks, Junior Clerk and Stenographer
**Kenneth Pelton, Technical Assistant
John Melnick, Technical Assistant
John Lockman, Technical Assistant

PERTINENT FACTS RELATING TO MASSACHUSETTS FERTILIZER LAW

Commercial Fertilizers

Registration is required annually on January 1.
Registration fee is $8 for each element; nitrogen, phosphoric acid, potash, and magnesia.
Label must show:
- New weight of fertilizer.
- Name, brand or trade mark, and grade
- Guaranteed analysis: Nitrogen, available phosphoric acid, water soluble potash. A guarantee of total phosphoric acid may be used instead of available phosphoric acid for bone, untreated phosphoric rock, tankage, dried and unpulverized manures, ground seeds, and wood ashes.

Tonnage reports are required semiannually, on January 1 and July 1.

Lime Products

Registration if required annually on January 1.
Registration fee: $12 for each brand
Label must show:
- Net weight of product.
- Name, brand or trade mark, and form of lime
- Name and address of manufacturer
- Guaranteed analysis: calcium oxide, magnesium oxide, carbonates of calcium and magnesium, or calcium sulfate (in gypsum or land plaster).

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*Transferred to Massachusett Department of Agriculture, April 1972
**Died Jan. 1972
@ Retired March 1973

FERTILIZER TONNAGE

	1971		1972	
	Jan. 1 to June 30	July 1 to Dec. 30	Jan. 1 to June 30	July 1 to Dec. 31
Mixed Fertilizers	35263	18499		
Unmixed Fertilizer Materials	8548	3207		
Pulverized Animal Manures	4148	684		
TOTALS	47959	22390		

Tonnage of Mixed Fertilizers, January 1 to December 31, 1971

Grade*	Jan. 1 to June 30	July 1 to Dec. 30	Grade*	Jan. 1 to Dec. 30	July 1 to Dec.31
10-10-10	4297	3252	12-4-8	361	305
5-10-10	3939	2094	7-7-7	43	21
10-6-4	4174	2076	0-10-30	43	87
5-10-5	1807	839	8-8-8	44	23
15-10-10	364	1022	20-10-10	92	6
10-20-20	1451	817	25-5-10	72	9
15-15-15	1143	483	16-8-8	148	15
6-8-8	155	----	0-15-30	71	95
10-20-10	1479	286	0-25-25	75	44
8-16-16	306	603	6-24-24	71	10
10-15-15	264	3	20-20-20	--	--
6-10-4	295	10	6-3-6	341	357
5-10-4	34	----	8-10-10	648	375
0-20-20	47	72	5-20-20	93	38
0-15-25	32	----	20-10-5	267	8
0-10-40	19	34	22-4-4	---	182
10-5-5	546	66	20-10-15	231	12
20-5-10	----	191	15-8-12	2440	488
22-5-5	720	340	23-7-7	1627	1139
32-5-3	340	184	0-13-39	114	124
			Miscellaneous	7070	2849
			TOTALS	35,263	18,499

FERTILIZER TONNAGE - Cont.

Tonnage of Unmixed Materials, January 1 to December 31, 1971

Materials	Tonnage Jan. 1 to June 30	Tonnage July 1 to Dec.31
Pulverized Animal Manures	4148	684
Miscellaneous Nitrogen Products	----	10
Process Tankage & Activated Sewage	1377	1245
Ammonium Nitrates	1073	241
Muriate of Potash	88	473
Superphosphate 20%	1013	242
Superphosphate 46%	110	126
Ammonium Phosphate	----	139
Sulfate of Potash	1214	----
Urea	1224	243
Cottonseed Meal	479	11
Steamed Bone Meal	234	161
Sulfate of Ammonia	179	226
Nitrate of Soda	171	14
Nitrate of Soda-Potash	57	1
Ureaform	16	22
Cyanamid	26	----
Sulfate of Potash-Magnesia	49	20
Dried Blood	5	8
Nitrate of Potash	----	----
Borate	----	8
Miscellaneous	1129	7
TOTALS	12,696	3,891

Total Tonnage of Fertilizers Sold During the Past Ten Years

1962	79942
1963	89392
1964	94874
1965	92937
1966	87868
1967	79155
1968	70995
1969	73659
1970	73640
1971	70349

EXPLANATION OF TABLE OF ANALYSIS

Guarantee. The plant food guarantee or the grade of each fertilizer is made a part of the trade name under the heading, "Name of Manufacturer and Brand", and is expressed as nitrogen, available phosphoric acid, and water soluble potash, in that order.

Mixture Substantially Complying with the Guarantee. In addition to those fertilizers that meet their guarantees in every respect, this table includes also a list of those mixtures that have one or more elements below the guaranteed percentage but have a shortage of less $1 per ton.

This table, in addition to the date mentioned in the next paragraph, contains only results of analytical tests pertaining to the average amount of water insoluble nitrogen present in some brands, since this information is of value to tobacco growers and other users of fertilizers containing a high percentage of this form of nitrogen. When no water insoluble nitrogen value is given it does not mean product contains no water insoluble nitrogen. It means no determination was made for such nitrogen.

Potash Forms. Tests for chlorine are made only on tobacco mixtures and on those fertilizers that carry a guarantee of potash in forms other than muriate. When the amount of chlorine present in any brand exceeds the tolerance allowed for that brand, this fact is indicated by a footnote.

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)	Approximate Commercial Shortage Per Ton
Agrico Chemical Company					
Agrico Plant Food 15-15-15	---	14.5	13.1**	15.8	$14.50
Agrico Phosphate & Potash 0-10-30....	---	----	6.7**	29.1	7.50
Agrico Grass Food 24-4-8	---	21.1**	3.6	7.1	10.40
Agrico Grass Food 24-4-8	---	22.6**	4.2	8.1	3.70
Agway Incorporated					
Agway Ferti-Flow 15-15-15.....	---	13.3**	14.1	14.9	7.00
Agway Ferti-Flow 15-15-15	---	14.5	14.9	13.5**	3.20
Agway Free Flow 5-20-20	---	4.7	16.5**	18.9	9.00
Agway Free Flow 5-20-20	---	5.9	17.9**	23.8	-----
Agway Muriate of Potash 0-0-60	---	----	----	51.1**	-----
Agway Ferti-Flow Corn Starter 10-20-10	---	10.7	17.4**	11.4	1.70
Chevron Chemical Company					
Ortho Evergreen & Tree Food Pellets 12-6-6	----	10.9**	5.9	6.2	3.30
Corenco Corporation					
Corenco Granuflo 10-10-10	----	10.6	9.5	7.5**	1.80
Corenco Granuflo 8-16-16	---	8.0	16.6	12.6**	5.20
Corenco Turf Green 8-6-4	2.5	7.8	5.8	2.8**	----
Corenco Gran-U-Phos 15-15-15	---	14.9	7.9**	16.0	13.50
Corenco Golf-Lawn Trebs 10-6-4	2.6	8.8**	6.2	3.9	3.30
Corenco Granuflo Fert. 15-15-15	---	14.8	12.5**	16.2	4.40
Corenco Granuflo Fert. 10-20-20	---	9.7	16.76**	21.9	5.48
Corenco Organic Turf Fert. 5-5-0	---	3.2**	4.3	----	6.80
Luzerne Lawn Food 10-6-4	---	8.8**	6.0	4.1	3.50
Farm Bureau Association					
FB Top Crop 10-20-20	---	9.7	19.1	17.7**	5.00
Heritage House Products					
H-H Systemic Weed & Feed Plus 11-4-7	.2**	9.0**	4.9	6.9	4.30
Kerr-McGee Chemical Corporation					
K-M 8-12-12	---	8.5	9.9**	12.7	4.00

**Deficient

MIXTURES SHOWING DEFICIENCIES EXCEEDING TOLERANCES - Cont.

Manufacturer & Brand	Nitrogen Found: Water Insoluble Nitrogen	Nitrogen Found: Total	Available Phosphoric Acid	Water Soluble Potash (K_2O)	Approximate Commercial Shortage Per Ton
Kerr-McGee Chemical Corporation (Cont.)					
K-M Plant Food 6-3-6	----	5.9	2.0**	5.9	$ 2.40
K-M Three-Way Turf 'N Tree 10-6-4 ..	----	8.5**	5.01**	4.4	6.08
K-M Turf 'N Tree Food 10-6-4	3.6	8.7**	6.2	4.2	3.30
K-M Plant Food 8-16-16	----	7.2	14.9**	16.9	3.70
K-M Plant Food 8-12-12	----	10.3	10.0**	11.8	-----
K-M Plant Food 10-20-20	----	12.0	19.3	16.8**	-----
K-M Evergreen Food 4-10-4	----	4.2	8.7**	3.4	2.60
K-M Plant Food 20-10-15	----	18.7**	10.0	13.7**	5.20
Lebanon Chemical Corporation					
Greenskeeper Special Mixture 20-0-10	----	17.9**	----	8.04**	9.26
Greenskeeper 12-4-8	5.7	13.5	5.0	6.9**	----
Country Squire Lawn & Garden 5-10-5.	---	6.3	8.2**	5.3	-----
Greenskeeper Fertilizer 12-4-8	4.8	10.5**	4.9	6.2**	4.50
Greenskeeper Granular 12-4-8	---	11.3	4.5	6.6**	2.50
Greenskeeper Granular 12-4-8	5.4	12.0	4.8	5.6**	-----
Country Squire Formula 10-6-4	3.3	8.5**	5.9	3.2	5.50
Penn. Dutch Turf Food 20-10-5	----	16.9**	11.4	6.7	4.80
Old Fox Fertilizer Company					
Old Fox Tobacco 6-3-6	----	5.9	2.4**	6.4	1.11
Old Fox Fertilizer 10-10-10	----	9.3**	9.7	9.8	2.10
Old Fox Fertilizer 0-15-30	---	----	20.5	26.8**	----
Old Fox Fertilizer 15-10-10	---	11.3**	14.0	10.1	----
Old Fox Fertilizer 15-15-15	---	15.4	10.2**	10.0**	13.40
Old Fox Fertilizer 10-10-10	---	10.1	8.7**	9.4	2.80
Old Fox Fertilizer 8-6-2	---	7.3	5.4	0.4**	8.50
Old Fox Fertilizer 10-10-10	---	8.5**	5.5**	12.0	11.50
Old Fox Fertilizer 8-6-2	---	8.5	6.2	.5**	-----
USS Agri-Chemicals					
USS Big Crop 10-10-10	---	8.6**	10.4	10.6	2.80

**Deficient

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Agrico Chemical Company		
Agrico Turf Food 10-6-4	3	---
Agrico Homestead 10-6-4	2	---
Agrico Vertagreen Plant Food 5-10-10	1	---
Vertagreen Turf & Tree Fertilizer 10-6-4	1	---
Rose Food 11-10-10	2	---
Agrico T.C.F. for Potatoes 12-16-16	2	---
Agrico Plant Food 20-10-5	2	---
Agrico Plant Food 15-10-10	1	---
Agrico Plant Food 10-10-10	4	---
Agrico Plant Food 10-20-20	2	---
Agrico Plant Food 6-12-12	1	---
Agrico Plant Food 8-16-16	1	---
Agrico Plant Food 5-10-5	1	---
Agrico Plant Food 10-6-4	1	3.4
Agrico A.C.R. 12-10-10	1	---
Agrico Country Club Fertilizer 20-5-10	1	6.1
Agrico Country Club 10-6-4	1	1.9
Agrico Rose Food 8-8-8	1	---
Agrico Evergreen Fertilizer 12-9-9	1	---
Agrico Weed Conditioner w/Fert. 10-6-4	1	---
Agrico Garden Fertilizer 10-20-10	1	---
Agrico Country Club Fert. 12-4-8	2	3.8
Agrico Country Club Fert. 20-0-10	1	7.2
Agrico Lawns,Trees, Shrubs 10-6-4	1	---
Agrico TCF for Corn 8-24-16	1	---
Agrico Plant Food 15-15-15	1	---
Agricultural Products Company, Inc.		
Apco Green Thumb 20-10-5	1	---
Agway Incorporated		
Agway Garden Plant Food 5-10-5	3	---
Agway Plant Food 5-10-10	10	---
Agway Free Flow 10-10-10	8	---
Agway Ferti-Flow 10-20-20	12	---
Agway Ferti-Flow 15-8-12	10	---
Agway Ferti-Flow 15-15-15	9	---
Agway Corn Starter 10-20-10	7	---
Agway Turfood Special 10-6-4	10	1.6
Agway Evergreen Plant Food 8-4-4	2	3.8
Agway Pro Green Turf Fert. 16-8-8	1	---
Agway Greenlawn 10-5-5	5	4.6
Agway Turfood Regular 10-6-4	5	---
Agway Weed 'N Grew 10-6-4	1	---
Agway Garden Plant Food 5-10-5	3	---
Agway Free Flow 0-25-25	2	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Agway Incorporated (Cont.)		
Agway Free Flow 5-20-20	2	---
Agway Free Flow Plant Food 0-13-39	5	---
Agway Improved Weed 'N Green 10-6-4	4	---
Agway Greenlawn Plus 22-6-8	5	7.3
Agway Ferti-Flow 6-24-24	1	---
Agway Golf Course 20-5-10	1	9.3
Agway Professional 12-4-8	1	4.2
Agway Start 'N Glo 16-12-16	1	---
Agway Ferti-Flow 10-20-10	2	---
Agway Professional Green 16-8-8	1	---
Agway Greenlawn Plus 21-7-7	1	5.6
Agway Greenlawn 10-5-5	1	5.2
Birch 'N Bend Gardens		
Birch 'N Bend Garden 10-6-4	1	---
Chevron Chemical Company		
Ortho-Gro Lawn Feed 22-4-4	5	---
Ortho-Gro Weed & Feed 21-4-4	5	---
Ortho-Gro Crabgrass Control 19-3-3	1	---
Ortho Rose Food 8-22-4	1	---
Ortho Lawn Groom 21-4-4	1	---
Ortho-Gro Lawn Food 20-3-3	1	---
Ortho-Gro Lawn Food 22-8-4	3	---
Ortho Spring Seeding Crabgrass Cond. 19-3-3	1	---
Corenco Corporation		
Corenco Organic Turf Fertilizer 5-5-0	2	5.3
Corenco Granuflo 10-6-4	4	---
Corenco Home & Garden All Purpose 5-10-5	5	---
Corenco Granuflo 10-10-10	7	---
Corenco Timberlin Tree Food 10-8-2	3	---
Corenco Golf & Lawn 10-6-4	7	3.4
Corenco Professional Grass Turf 10-6-4	2	5.2
Rose Food 8-10-4	2	---
Rhoda Azalea 7-7-7	2	---
Turf Green 8-6-4	9	---
Corenco Granuflo 5-10-10	5	---
Corenco Granuflo 5-10-5	1	---
Corenco Granuflo 8-16-16	3	---
Corenco Organic Turf 5-5-0	4	4.4
Corenco Granuflo Fert. 15-10-10	1	---
Corenco Lawn Food 12-4-8	1	---
Corenco Premium Grade Fert. 6-3-6	1	---
Corenco Granuflo Fert. 0-20-20	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Corenco Corporation (Cont.)		
Corenco Granuflo Fert. 0-15-30	1	---
Corenco Granuflo Fert. 18-46-0	1	---
Corenco Granuflo Fert. 8-12-12	1	---
Corenco Granuflo Fert. 10-20-20	1	---
Luzerne Food Plant 5-10-5	1	---
Luzerne Lawn Food 10-6-4	3	---
Elanco Products Company		
Greenfield 2-Way Green Power Lawn Fert. 24-6-6.	6	3.8
Greenfield Treble Crabgrass Killer Fert.16-8-4.	4	---
Greenfield Green Power 24-6-6	1	---
Greenfield Grabicde Gran Crabgrass Pre.10-8-4..	1	---
Faesy & Besthoff Incorporated		
F&B Evergreen Food 7-7-7	1	---
F&B Garden Food 5-10-5	1	---
F&B Rose Food 8-10-4	1	---
F&B Lawn Food 10-6-4	1	---
Farm Bureau Association		
Estate Fertilizer Lawn & Turf 10-6-4	1	3.1
Lawn & Turf 10-6-4	2	5.4
Estate Gran. Fertilizer 10-6-4	1	---
FB Fert. 5-10-10	1	4.1
FB Top Crop Fert. 16-8-8	1	---
FB Top Crop Fert. 10-10-10	1	---
Federal Chemical Company		
Texaco Nu Turf Weed & Feed20-10-5	1	---
Green Chief Lawn Food 20-10-5	1	---
Texaco Green Chief Lawn Food 20-10-5	1	---
The Fer-Mel Corporation		
Fer-Mel Premium Lawn Food 25-12-10	2	---
W.R. Grace & Company		
Nurish (Grace) Prover 0-20-0	2	---
Independence Hall Seed Company		
Bare Special Formula Grass Seed & Feed Mix	1	---

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Kerr-McGee Chemical Corporation		
K-M 15-5-15 Plant Food	2	---
K-M Super Spud 8-12-12	3	---
K-M Plant Food 15-10-10	3	---
K-M Plant Food 10-10-10	2	---
K-M Super Spud 8-10-10	2	---
K-M Plant Food 7-7-7	3	---
K-M Plant Food 10-20-10	2	---
K-M Plant Food 5-10-10	1	---
K-M Turf 'N Tree Food 10-6-4	3	4.9
Lawn Craft Turf Food 8-6-4	1	2.4
K-M Turf Food Seed Starter 6-12-4	1	---
K-M Rose Food 7-10-5	4	2.5
K-M Dried Blood 6-0-0	1	---
K-M 3-Way Turf 'N Tree Food 10-6-4	1	---
K-M Plant Food 5-10-5	1	---
K-M Plant Food 5-8-30	2	---
K-M Plant Food 6-3-6	2	---
K-M Plant Food 8-16-16	1	---
H-H Dacthal Plus 11-4-7	2	---
HH All Purpose 6-9-5	1	---
HH Rose Food 8-14-6	1	---
HH Lawn Food 21-6-11	1	3.6
HH Weed & Feed Plus 11-4-7	1	---
Lebanon Chemical Company		
Greenskeeper Fert. 20-0-10	1	---
Country Squire Fert. 10-6-4	1	---
Greenskeeper Granular 20-4-10	2	5.2
Greenskeeper Evergreen Food 5-10-4	2	5.9
Country Squire Econcomy Fert. 5-10-5	1	---
Lebanon Fert. 5-10-10	1	---
Lebanon Hi-Organic 10-6-4	2	---
Lebanon Green Gold 23-7-7	1	5.
Lebanon Azalea & Evergreen Fert. 6-7-5	1	---
Lebanon Rose Food 7-7-7	1	---
Lebanon Turf Organic 5-4-0	1	5.7
Greenskeeper Granular 20-0-10	1	---
Greenskeeper Tree & Shrub Fert. 5-10-4	2	5.9
Greenskeeper Special Mixture 20-0-10	1	5.9
Greenskeeper Standard Fert. 10-6-4	1	---
Greenskeeper Fert. 16-8-8	1	---
Country Squire Azalea,Rhoda., & Broadleaf Evergreen Food 9-5-4	1	---
Country Squire Lawn & Garden 10-6-4	1	---
Country Squire Rose Food 6-12-6	1	---
Country Squire Formula '50' 10-6-4	1	---
Country Squire Formula 200 Weed & Feed 10-6-4	1	---
Country Squire Lawn Food 23-7-7	1	3.8
Greenskeeper 16-8-8	1	5.3
Emerald Lawn Builder 20-10-5	1	---

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES -Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
Lofts Pedigreed Seed Company		
Lofts Lawn Food for Turf 23-8-7	2	---
Lofts Two-In-One Fert. 18-6-6	1	---
Lofts for Turf Granular 12-4-8	1	3.3
Lyon Lawn Fert. Organic 20-5-10	1	---
Massachusetts Nurserymen's Association		
MNA Plant-O-Ganic 8-8-8	1	---
MNA Turf-O-G nic 10-6-4	1	4.2
The Natural Development Company		
Fertrell Super N 4-2-4	2	---
Super Fertrell 3-2-3	1	---
Nassau Garden Incorporated		
Glorion Light Weight Deluxe 23-7-7	1	---
Glorion Deluxe Grass Food 12-8-4	1	3.4
Glorion Weed & Feed Lawn Fertilizer 10-6-4 .	1	---
Glorion Rose Food 7-7-7	1	---
Glorion Azalea Food 6-7-5	1	---
Glorion Hi-Organic For Turf & Garden 10-6-4.	1	2.6
Old Deerfield Fertilizer Company		
Deerfield Lawn Food 10-6-4	1	---
Deerfield Plant Food 5-10-5	1	---
Old Fox Chemical Company		
Old Fox For Tobacco Fert. 6-3-6	1	---
Old Fox Fert. 8-10-10	3	---
Old Fox Fertilizer 5-10-10.....	3	---
Old Fox Fertilizer 8-16-16	1	---
Old Fox Fertilizer 10-10-10	1	---
Old Fox Fertilizer Turf Granular 10-6-4	1	---
Old Fox Acid Soil Plant 6-10-6	1	---
Old Fox Fert. 5-10-5	1	---
Old Fox Fert. 15-15-15	1	---
Old Fox Fertilizer 8-6-2	1	---
Semi-Gran 10-10-10	1	---
Perk-Up Products		
Perk-Up Plant Food 5-10-5	2	---
Perk-Up Lawn Food 10-6-4	2	---
Rapid-Gro 23-19-17	1	---
O. M. Scott & Sons		
Scotts Turf Builder 23-7-7	11	7.8
Scotts Turf Builder 22-5-5	1	4.2
Scotts Turf Builder Plus 1 22-5-5	1	8.4
Scotts Turf Builder Plus 2 22-5-5	8	8.0
Scotts Shrub & Tree Fert. 20-4-8	1	6.0

MIXTURES SUBSTANTIALLY COMPLYING WITH GUARANTEES - Cont.

Manufacturer & Brand	Number of Samples Analyzed	Average Percentage of Water Insoluble Nitrogen
O.M. Scott & Sons (Cont.)		
Scotts Super Turf Builder 32-5-3	7	18.6
Scotts Starter Fert. 18-24-6	4	7.6
Scotts Halts Plus 20-6-6	4	7.7
Scotts Halts Plus 16-21-5	4	4.9
Scotts Halts Plus 20-5-5	1	8.6
Sears Roebuck & Company		
Sears Roebuck Premium 30-3-6 Fert.	1	23.1
Sears Superfine Lawn Fert. 25-5-10	1	8.0
Sears Green Karpet Lawn Fert. 20-10-5	1	---
Sears Feed & Weed 10-6-4	1	---
Stanford Seed Company		
Patco Garden Food 6-12-12	1	---
Patco Evergreen & Shrub Food 7-8-7	1	---
Patco Sod Maker 12-4-8	1	---
Stanfords Patco Lawn Fert. 25-5-10	1	7.9
Patco Allganic 4-6-2	1	---
Patco Lawn Food 10-8-3	1	---
Stewart's Nursery Incorporated		
Stewarts Country Green 10-6-4	2	4.9
Golden Vigoro Lawn Fert. 18-4-8	1	---
USS Agri-Chemical Company		
USS Big Crop 10-10-10 Plant Food	2	---
USS Vertagreen Plant Food 6-12-12	1	---
USS Big Crop Plant Food 5-10-10	1	---
USS Vertagreen Turf & Tree 10-6-4	3	2.9
Gold Bond Multi-Purpose 10-6-4	2	---
Gold Bond Multi-Purpose 5-10-5	2	---
USS Vertagreen Lawn & Garden 5-10-5	5	---
USS Vertagreen Tournament Plus Special Turf Food 12-4-8	2	2.2
USS Pebble Plant Food 0-15-30	1	---
USS Vertagreen Agric. Plant Food 6-12-12	1	---
USS Vertagreen Plant Food 10-10-10	1	---

NITROGEN COMPOUNDS

Manufacturer & Brand	Nitrogen Found	Nitrogen Guaranted
Agrico Chemical Company		
Agrinite Plant Food 7-0-0	9.2	7.
Agrinite Plant Food 7-0-0	8.8	7.
Agrico Urea 45-0-0	45.3	45.
Agrico Aginite 7-0-0	6.7	7.
Agrinite Plant Food 24-0-0	26.8	24.
Agrico Agrinite 7-0-0	7.1	7.
Agway Incorporated		
Urea 45-0-0	45.7	45.
Agway Ammonium Nitrate 33.5-0-0	33.7	33.5
Agway Urea 45-0-0	45.6	45.
Agway U-45 45-0-0	45.6	45.
Agway Ammonium Nitrate 33.5-0-0	34.3	33.5
Agway Ammonium Nitrate 34-0-0	33.8	34.
Agway Ammonium Nitrate 33.5-0-0	33.3	33.5
Allied Chemical Corporation		
Arcadian Ammonium Sulfate	21.5	21.
American Cyanamid Company		
Aero Urea Coated Prilled Fert. 46-0-0	46.1	46.
Canadian Industries Ltd.		
C-I-L Ammonium Nitrate 34-0-0	34.1	34.
C-I-L Ammonium Nitrate 34-0-0	34.4	34.
Chilean Nitrates Sales Corporation		
Champion Natural Chilean 15-0-14	15.0	15.
Champion Natural Chilean 15-0-14	15.1	15.
Corenco Corporation		
Corenco Cottonseed Meal 6-0-0	6.3	6.
Corenco Cottonseed Meal 6-0-0	5.9	6.
Corenco Granuflo Cottonseed Meal 6-0-0	6.3	6.
E.I. duPont deNemours & Company		
Dupont Uramite 38-0-0	37.4	38.
Farmers Chemical Association Inc.		
Green Charger Prilled Ammonium 34.5-0-0	34.4	34.5
Ammonium Nitrate 34.5-0-0	34.1	34.5
W. R. Grace & Company		
Grace Urea Prills 45-0-0	46.0	45.
Hercules Inc.		
Hercules Nitroform 38-0-0	38.2	38.

Manufacturer & Brand	Nitrogen Found	Nitrogen Guaranteed
Kerr-McGee Chemical Corporation		
K-M Sulphate of Ammonia 21-0-0	21.1	21.
K-M Nitro Ganic 5-4-0	6.0	5.
K-M Nitro Ganic 5-4-0	6.1	5.
K-M Nitroganic 5-4-0	5.2	5.
K-M Nitro Ganic 5-4-0	6.1	5.
K-M Nitro Ganic 5-4-0	5.7	5.
K-M Cottonseed Meal 6-0-0	6.7	6.
Lebanon Chemical Corporation		
Lebanon Nitroform 38-0-0	38.3	38.
Southwest Potash Corporation		
K-Nite Potassium Nitrate	13.7	13.75
K-Nite Potassium Nitrate	13.7	13.75
K-Nite Potassium Nitrate	13.7	13.75
USS Agri-Chemical Company		
USS Urea Prills 45-0-0	45.2	45.
USS Urea Prills 45-0-0	45.2	45.
Wilson & Geo. Meyer & Company		
Viking Ship Brand Calcium Nitrate	15.2	15.2
Viking Ship Calcium Nitrate	15.7	15.5

NITROGEN AND PHOSPHORIC ACID PRODUCTS

Manufacturer & Brand	Total Nitrogen Found	Total Phosphoric Acid Found	Available Phosphoric Acid Found
Agrico Chemical Company			
Agrico Bone Meal 2-10-0	2.0	29.06	16.62
Agrico Bone Meal 2-27-0	2.1	----	16.29
Agrico Bone Meal 2-10-0	2.0	30.59	16.96
Agway Incorporated			
Agway Steamed Bone Meal 1-11-0..	2.0	28.61	14.66
Di-Ammonium Phosphate 18-96-0..	18.3	-----	46.1
Agway Steamed Bone Meal 1-11-0..	0.9	28.10	15.43
Agway Di-Ammonium Phosphate 18-46-0	17.9	-----	46.6
Agway Di-Ammonium Phosphate 18-46-0.....	18.3	-----	45.5
Corenco Corporation			
Corenco Bone Meal	2.3	28.29	16.0
Faesy & Besthoff Incorporated			
F&B Steamed Bone Meal 1-11-0...	2.5	-----	15.88
F&B Steamed Bone Meal 1-11.69-0..	0.9	28.48	16.07
W.R. Grace & Company			
Nurish Di-Ammonium Phosphate 18-46-0.....	18.4	-----	46.1
Nurish Di-Ammonium Phosphate 18-46-0....	18.3	----	46.1
Kerr-McGee Chemical Corporation			
K-M Bone Meal 1-20-0	1.8	31.69	19.19
K-M Bone Meal	0.9	-----	19.02
K-M Di-Ammonium Phosphate.....	18.2	-----	46.5
The Milwaukee Sewerage Commission			
Milwaukee Milorganite 6-3-0...	6.3	-----	3.5
Milwaukee Milorganite 6-3-0...	6.6	-----	3.3
Milwaukee Milorganite 6-3-0...	6.5	-----	3.2
Milwaukee Milorganite 6-3-0...	6.4	-----	3.2
Milwaukee Milorganite 6-3-0...	6.3	-----	3.5
USS Agri-Chemical Company			
USS Steamed Bone Meal	4.4	23.86	13.47

Manufacturer & Brand	Available Phosphoric Acid Found	Available Phosphoric Acid Guaranteed
Agway Incorporated		
Agway 20-Phos 0-20-0	21.1	20.
Agway 20-Phos 0-20-0	20.5	20.
Triple Superphosphate 0-46-0	46.1	46.
Agway 20-Phos 0-20-0	20.4	20.
Agway 20-Phos 0-20-0	20.0	20.
Agway Triple Superphosphate 0-46-0	47.5	46.
Agway 20-Phos 0-20-0	20.2	20.
Agway 20-Phos 0-20-0	19.8	20.
Agway Triple Superphosphate	46.5	46.
Agway 20-Phos 0-20-0	20.3	20.
Corenco Corporation		
Corenco 20% Superphosphate	21.7	20.
Corenco 20% Superphosphate	19.8	20.
Kerr-McGee Chemical Corporation		
K-M Superphosphate 0-20-0	18.9	20.
K-M Triple Superphosphate 0-46-0	46.6	46.
Lebanon Chemical Corporation		
Granular Superphosphate 0-20-0	20.4	20.

POTASH COMPOUNDS

Manufacturer & Brand	Water Soluble Potash Found	Water Soluble Potash Guaranteed
Agway Incorporated		
Muriate of Potash 0-0-60	59.7	60.
Muriate of Potash 0-0-60	59.6	60.
Muriate of Potash 0-0-60	60.1	60.
Muriate of Potash 0-0-60	60.4	60.
Muriate of Potash 0-0-60	59.4	60.
Muriate of Potash 0-0-60	59.8	60.
Corenco Corporation		
Corenco Granuflo Fert. 0-0-60	59.8	60.
Kalium Chemical Ltd.		
Kalium Muriate of Potash 0-0-62	62.1	62.
Kerr-McGee Chemical Corporation		
K-M Sulphate of Potash 0-0-50	51.9	50
K-M Muriate of Potash 0-0-62	60.82	62.
K-M Muriate of Potash 0-0-62	61.1	62.
USS Borax Company		
USS Borax Coarse 60 Muriate of Potash	60.0	60.

PULVERIZED ANIMAL MANURES

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash
Agway Incorporated			
Agway Composted Cow Manure 1-1-1	0.90	1.15	1.1
Agway Composted Cow Manure 1-1-1	1.0	1.03	1.2
Agway Composted Sheep Manure	.9	1.06	1.1
Corenco Corporation			
Corenco Brand Sheep Manure 1.25-1-2	1.8	1.22	1.8
Greenlife Products Company			
Greenlife Cow Manure 2-1-2	1.0	0.83	1.1
Greenlife Cow Manure 2-1-2	1.3	0.8	1.2
Kerr-McGee Chemical Corporation			
K-M CKerr-McGee Composted Sheep Manure	1.3	1.80	1.9
H-H Cow Manure	.9	1.15	1.3
Natural Plant Food Company, Incorporated			
Longhorn Brand Dehydrated Cattle Manure 2-1-2	1.8	0.90	2.0
Organic Compost Corporation			
Fertie Composted Cow Manure 1-1-1	0.9	1.31	1.4
Stokle Incorporated			
Gardeners Composted Cow Manure 1-1-1	0.80	1.03	1.0
USS Agri-Chemicals			
USS Cattle Manure 1-1-1	1.1	----	.94
Walker-Gordon Laboratory			
Bovung Cow Manure 2-1-2	2.3	.93	1.9
Bovung Cow Manure 2-1-2	2.2	0.9	2.1
Bovung Cow Manure 2-1-2	2.6	1.6	2.7
Bovung Cow Manure 2-1-2	2.5	1.38	2.7
Bovung Cow Manure 2-1-2	2.2	1.2	2.6

PULVERIZED ANIMAL MANURES - Cont.

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash
Walker-Gordon Laboratory (Cont.)			
Bovung Cow Manure 2-1-2	2.6	1.54	2.4
Bovung Cow Manure 2-1-2	2.3	1.03	2.4

AGRICULTURAL LIME PRODUCTS

Manufacturer & Brand	Calcium Oxide (CaO) Found	Calcium Oxide (CaO) Guaranteed	Magnesium Oxide (M_gO) Found	Magnesium Oxide (M_gO) Guaranteed
Lee Lime Corporation				
Tobey Agar Hydrate 35-25-52	41.0	-----	28.0	----
Lee Double Strength	42.0	-----	28.0	----
Lee Lawn & Garden Lime	30.6	-----	19.8	----
Lee Hi Mag Limestone	30.2	-----	19.0	----
Lee Cal Mag Lime	42.0	-----	7.4	----
Lee Lawn & Garden	42.0	-----	6.8	----
Limestone Products Corporation of America				
America Lime Crest Granular Limestone	46.4	-----	2.7	-----
Chas. PfizerIncorporated				
Pfizer Nelco Limestone	30.5	-----	23.1	----
Agricultural Lime	53.4	-----	0.41	----

DIRECTORY OF MANUFACTURERS WHO REGISTERED FERTILIZERS FOR SALE IN MASSACHUSETTS 1972 SEASON ALSO LIME

Agrico Chemical Company, P.O. Box 2178, Edison, New Jersey 08817
Agricultural Products Co., Inc., 589 Atwells Ave., Providence, R.I. 02903
Agway Incorporated, P.O. Box 1333, Syracuse, New York 13201
Alfco Rokeby Co., Inc., Second and St. Clair Sts., Marietta, Ohio 45750
Allied Chemical Corp., Agricultural Div., P.O. Box 2061R, Morristown,N.J. 07960
American Cyanamid Co., P.O. Box 400, Princeton, New Jersey 08540
Asgrow Mandeville Co., Subsidiary of UpJohn Company, 15 West Main St., Cambridge, New York 12816
Atlas Fish Fertilizer Co., 1015 O'Brien Drive, Menlo Park, Calif. 94025

The F. A. Bartlett Tree Expert Co., 2770 Summer St., Stamford, Conn.06905
Bonide Chemical Co., Inc., 382 No. Genesee St., Utica, New York 13502
Brockville Chemical Industries Ltd., 1 Place Ville Marie, Suite 2340, Montreal 113, Quebec, Canada

Cadwell & Jones, Inc., 353 Park Ave., East Hartford, Conn. 06108
The Chas. C. Hart Seed Co., P.O. Box 169, Wethersfield, Conn. 06109
Chesnicka Landscape Nursery Inc., 67 Apremont Way, Westfield, Mass.01085
Chevron Chemical Co., Ortho Division, 940 Hensley,Richmond, Calif. 94804
Chilean Nitrates Sales Corp., One World Trade Center, Suite 5167, New York, New York 10048
Clinton Nursery Products, Inc., Boston Post Rd., Clinton, Conn. 06413
Corenco Corp., 525 Woburn St., Tewksbury, Mass. 01876

The Davey Tree Expert Company, 117 South Water Street, Kent, Ohio 44240
Diamond Shamrock Corporation, 300 Union Commerce Bldg., Cleveland,Ohio 44155

E.I. duPont de Nemours and Co., 6054 DuPont Bldg., Wilmington, Del. 19898
Ecology Inc., 221 Varick Ave., Brooklyn, New York 11237
Elanco Products Co., A Division of Eli Lilly & Co., P.O. Box 1750, Indianapolis, Ind. 46206
The Espoma Company, 6 Espoma Road, Millville, N.J. 08332

Faesy & Besthoff Inc., 143 River Rd., Edgewater, New Jersey 07020
Farmers Chemical Association, Inc., P.O. Box 87, Harrison, Tenn. 37341
Federal Chemical Company, 646 Starks Bldg., Louisville, Kentucky 40202
The Fer-Mel Corporation, 304 Main St., Wethersfield, Conn. 06109

W. R. Grace & Co., Agricultural Chemicals Group, P.O. Box 1713, Baltimore, Maryland 21203
Grounds Equipment Co., Inc., 383 Boylston St., Newton Centre, Mass.02159
Greenlife Products Co., Inc., P.O. Box 72 West Point, Virginia 23181

Hercules Inc.,910 Market St., Wilmington, Delaware 19899
A. H. Hoffman, Inc., P.O. Box 8, Landisville, Penn. 17538
Hydroponic Chemical Co., Inc., P.O. Box 4300, Copley, Ohio 44321
The Hy-Trous Corp., 502 Statler Bldg., Boston, Mass. 02116

Independence Hall Seed Co., 2700 Wilmarco Ave., Baltimore, Maryland

Jet-X Corporation, 2550 W. 2nd Ave., Denver, Colorado 80217

Ken-Bris Farms, P.O. Box 106, Bristol, Ill. 60512
Kerr-McGee Chemical Corporation, Kerr-McGee Bldg., Oklahoma City, Okla. 73102

Lawn-A-Mat Chemical & Equipment Corp., c/o Rockland Chemical Co., Inc., P.O. Box 204, Caldwell, New Jersey 07006
Lawn Medic Inc., 1024 Sibley Tower Bldg., Rochester, N.Y. 14604
Lebanon Chemical Corp., P.O. Box 180, Lebanon, Penn. 17042
Leffingwell Chemical Co., Div. of Thompson-Hayward Chemical Co., 111 So. Berry St., Brea, Calif. 92621
Lofts Pedigreed Seed, Inc., P.O. Box 146, Bound Brook, New Jersey 08805
Loncala Phosphate Company, P.O. Box 766, High Springs, Florida 32643
John D. Lyon, Inc., 143 Alewife Brook Parkway, Cambridge,Mass. 02140

Masters Specialty Company, 445 West Nixon St., Savage, Minnesota 55378
J. J. Mauget Co., Inc., P.O. Box 3422, Burbank, Calif. 91504
Miller Chemical & Fertilizer Corp., P.O. Box 333, Hanover, Penn. 17331
Milwaukee Sewerage Commission, 700 East Jones St., P.O. Box 2079, Milawukee,Wisc.
Monsanto Company, 800 N. Lindbergh Blvd., St. Louis, Missouri 63116
Multi-Mer Science, Box 208, Arlington, Mass. 02174

Na-Churs Plant Food Co., Ltd., P.O. Box 847, London, Ontario, Canada
The Natural Development Co., Box 215, Bainbridge, Pa. 17502
New Plant Life, P.O. Box 45, La Porte,Indiana 46350
Old Fox Chemical Inc., 66 Valley St., East Providence, R.I. 02914
Olin Corporation, P.O. Box 991, Little Rock, Arkansas 72203
Organic Compost Corp., Box 70, Oxford, Pa. 19363

Pax Company, 580 West 13th South, Salt Lake City, Utah 84115
Robert B. Peters Co., Inc., 2833 Pennsylvania St., Allentown, Pa. 18104
Pfizer Inc., 260 Columbia St., Adams, Mass. 01220
Plantabbs Corp.,Timonium, Maryland 21093
Plant Products Corp., Kennedy Ave., Blue Point, New York 11715
Premier Peat Moss Corp., 25 W. 45th Street, New York, N.Y. 10036

Ra-Pid-Gro Corporation, 88 Ossian St., Dansville, New York 14437
Relko, Inc., 900 Taylor St., P.O. Box 2645, Amarillo, Texas 79105
Rhoda Inc., Chipman Division, 120 Jersey Ave., P.O. Box 2009, New Brunswick, New Jersey 08903
Ross Daniels Inc., 1720 Fuller Rd., P.O. Box 430, West Des Moines, Iowa 50265

Sea-Organics Corp., 6 Lynde St., Salem, Mass. 01970
Schultz Company, 11730 Northline, Maryland Hts., Missouri 63043
O. M. Scott & Sons Co., Marysville, Ohio 43040
S&D Products Inc., P.O. Box 66, Prairie du Chien, Wisconsin 53821
Sears, Roebuck & Co., Lawn & Garden Dept., 925 South Homan Ave., Chicago, Illinois 60607
Sierra Chemical Co., P.O. Box 275, (37650 Sycamore St.,) Newark, Calif. 94560
Sivero Enterprises, Inc., P.O. Box 155, Dolton, Ill. 60419
Stanford Seed Company, P.O. Box 230, (Patco Division), Plymouth Meeting,Pa.19462
Stern's Garden Products, Inc., (for Stern's Nurseries,INc.) 404 William St., Geneva, New York 14456

Stewart's Nursery, Inc., Millers Falls Rd., Turners Falls, Mass.
Stim-U-Plant Inc., 2077 Parkwood Ave., Columbus, Ohio 43219
Sudbury Lab., Inc., Sudbury, Mass.01776
Swift Agricultural Chemicals Corp., P.O. Box 340, Glen Burnie, Md.
Swiss Farms Inc., Box F, Philmont, New York 12565

USS Agri-Chemicals, Division of U.S.Steel, P.O. Box 3478, Baltimore, Md. 21226

Walker-Gordon Lab. Co., Plainsboro, NewJersey 08536
Warren's Turf Nursery, 8400 W. 111 Street, Palos Park, Ill. 60464
Western Auto Supply Company by Federal Chemical Company, 646 Starks Building, Louisville, Kentucky 40202
Wilson & Geo. Meyer & Co., 270 Lawrence Ave., South San Francisco, Calif. 94080
Winslow Nurseries Inc., Pilgrim Road, Needham, Mass. 02192

Zep Manufacturing Company, P.O. Box 2015, Atlanta, Georgia 30301

LIME REGISTRATIONS

Conklin Limestone Co., RD #1, Lincoln, Rhode Island 02865
Conklin Limestone Co., Canaan, Conn. 06008
Lee Lime Corporation, Marie St., Lee, Mass.
Limestone Prod. Corp. of America, P.O. Box 490, Newton, N.J. 07860
United States Gypsum Co., 101 S. Wacker Drive, Chicago, Ill. 60606

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